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Influence of the COVID-19 Crisis on Housing Preferences of Homeowners in the Netherlands

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Abstract

How the COVID-19 pandemic impacted housing preferences is largely unknown. This research, therefore, focuses on the impact of the COVID-19 crisis on the housing preferences of homeowners in the Netherlands. The main findings are that the pandemic phase and the restrictive measures taken to limit the spread of the coronavirus impacted people's needs, preferences, and values. A survey (n=51) has been used to collect data on preferences before, during and after the COVID-19 crisis. Having a house with an extra room was appreciated more by homeowners, due to working from home becoming the new normal. Also living in a green environment gained importance during the COVID-19 crisis, as well as living close to family and friends. It was also investigated, using a paired samples t-test, whether preferences regarding living close to facilities or work have changed. However, these turned out to be insignificant. Multivariate analysis was used to test whether *age, gender, province of residence, household composition, living urban/rural, and type of residence* could explain the change in housing preferences, which turned out to not be the case. The main conclusion is that there is a change in preferences observable, however, whether the COVID-19 crisis is the only explanatory factor for this cannot be said.

Key words: *COVID-19 crisis, housing preferences, homeowners*

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1. INTRODUCTION

1.1 BACKGROUND

COVID-19, the disease caused by the severe acute respiratory syndrome coronavirus 2, turned the world upside down in 2020. This highly contagious disease spread around the world fast, and due to an absence of a vaccine, governments implementing non-pharmaceutical interventions was the only available option to slow the transmission of the disease (Haug et al., 2020). These measures ranged from staying- and working at home to social distancing in public. As these measures also varied from time to time, and per country, the sense of uncertainty among the population was high (Xavier et al., 2022). Besides, Haug et al. (2020) argue that these government interventions likely influenced individuals' behaviour, and thus their choices and preferences. Whether, explicitly, peoples' housing preferences have changed during this period will be investigated.

In this research, 'housing preferences' refers to certain features any consumer wants to have in a house (IGI Global, 1988). Zinas & Jusan (2012) argue that preferences and choices are constant dynamic operations, based upon the behavioural dynamism of people. Due to the differing measures, society could be considered fairly dynamic. The European Central Bank (2021) states that the COVID-19 crisis may lead to changing preferences and behaviours which eventually lead to a change in housing demand. It is important to discuss how the COVID-19 crisis will affect housing preferences and residential choices, as there is not yet a consensus on how the pandemic can impact these (Kang et al., 2021).

1.2 SOCIETAL RELEVANCE

This research is relevant to society as it aims to find changes in the housing preferences of homeowners in the Netherlands as a result of the pandemic, therefore housing providers can take this into consideration and build suitable houses in the right locations. There is already a housing shortage in the Netherlands (Nijskens & Lohuis, 2019), so understanding what type of houses are needed to be built and where they should be built, will help adress this problem.

Furthermore, due to the multi-faceted nature and unprecedented scale of the COVID-19 crisis, comparing it with former crises has its weaknesses. COVID-19 proved to be unique due to its impact on all regions of the world, and therefore much more uncertain (OECD,2020). The COVID-19 crisis and its consequences should thus be extensively researched.

1.3 SCIENTIFIC RELEVANCE

At the moment of writing, we are still living in a pandemic. However, a declining trend can be observed in the weekly cases and deaths since a peak in January 2022 (WHO, 2022). As a consequence, the COVID-19 crisis is a relatively new phenomenon and there is not yet much known about the consequences this has on people's housing preferences (Muhyi & Adianto, 2021). This research will be relevant to scientific literature because it addresses changes in people's preferences after a major change in people's living environment. If such a crisis will ever happen again, this research can be used to explain certain changes in housing preferences. On this topic specifically,

there is not yet much literature available. Apart from one master thesis on the Dutch context (Bons, 2021), only South Korea (Kang et al. 2021), Italy (Guglielminetti, 2021), and Poland (Stankowska & Stankowska-Mazur, 2022) are represented in the literature. This research can provide new insights and can be used for comparison with other countries.

1.4 OBJECTIVES AND RESEARCH QUESTIONS

This research aims to find whether and how the COVID-19 pandemic affects homeowners' housing preferences. The societal impacts of both the virus and the regulations which followed to reduce its spread were severe. People had to change their daily life radically and under conditions of lockdowns, the home became a vital place for a variety of daily activities (de Haas et al., 2020). They argue that people's behaviour depends on habit and routine and that changes in behaviour do not occur often. However, certain life events might trigger change. De Haas et al. (2020) argue that the current lockdown situation might be such a life event, inducing behavioural change. Whether this shift in behaviour due to the COVID-19 outbreak and the regulations that followed led to a change in housing preferences of homeowners in the Netherlands will be investigated.

This research adopts the following research question:

'What is the effect of the COVID-19 crisis on homeowners' housing preferences in the Netherlands?'

The questions that follow from the main research question are:

1. What were homeowners' housing preferences before the COVID-19 crisis?
2. What are homeowners' housing preferences during the COVID-19 crisis?
3. What do homeowners expect their housing preferences to be after the COVID-19 crisis?
4. In what ways did these preferences change, and how can the COVID-19 crisis have led to these changes?

1.5 READING GUIDE

This thesis compromises five chapters. Core concepts will be further defined and discussed in chapter two. Chapter three elaborates on the research methods used and reflects on the quality of the data. The fourth chapter presents the results and examines this through a lens of theory. Chapter five will answer the main research question, reflects on the research project, and provides recommendations for future research.

2. THEORETICAL FRAMEWORK

2.1 THE COVID-19 CRISIS

Since the beginning of 2020, the world has been trying to battle the coronavirus. The coronavirus is highly contagious and the spread around the world happened relatively quickly, resulting in the COVID-19 pandemic (Komarova et al., 2020). As of March 12, 2020, Dutch people were urged to stay at and work from home in full measure (Rijksoverheid, 2020). According to Centraal Bureau voor de Statistiek (2020), as of 2019, 4 out of 10 people worked from home in the Netherlands. Due to this and other restrictive measures, people spend more time at home and were limited in their daily activities.

As it looks like the pandemic phase comes to an end and the world slowly starts to recover, it now becomes clear that the period of lockdowns has had an immense impact on the life of the people (Charumilind et al., 2022). Besides, it is stated that over two years of contamination, self-isolation, and uncertainty have changed the way consumers behave. Research by Funda (2020), a website that brings together the supply and demand of real estate, finds that the COVID-19 crisis indeed affects people's satisfaction with their living situation. People's searching behaviour was analysed and this confirmed the argument. Since the COVID-19 crisis, living space, and in particular outdoor space, has become increasingly important to people. The filter 'garden' is used 19% more during the crisis than in the weeks prior to the crisis (Funda, 2020). Coolen & Hoekstra (2001) find a direct relationship between the attribute 'garden' and the value 'freedom'. A hierarchical value map created by the participants showed a strong association between having a garden and feeling free. This could imply that during the pandemic people feel restricted as they are limited in mobility, and having a garden will provide them with more freedom and thus more satisfaction with their living environment.

Another attribute that is subject to change is the location of the dwelling. According to the Nederlandse Vereniging van Makelaars (2020), an interest group for real estate agents, the percentage of buyers from rural dwellings outside the Randstad has been increasing over the past few years. An increasing number of people are moving from the larger cities to the rural areas, and the NVM speaks of a trend. Whereas in 2015 only 5.5% of buyers from the Randstad were looking for a house in a rural area, in 2020 this percentage has increased to 10% (NVM, 2020). A possible reason for this might be the changing perception of city life. According to Kang et al. (2021), it is often believed that urban density increases the risk of being infected by the coronavirus, as the higher density in the cities is associated with a higher likelihood of interaction. Therefore, as urban areas are more affected by the coronavirus, people might want to escape the cities and move to the less dense rural areas (Matheson et al., 2020). When moving to a rural area, a living environment which provides greenery, nature nearby, space, tranquillity, and privacy is highly appreciated. (Bons, 2021).

2.2 HOUSING PREFERENCES

Research on determinants of housing preferences has received a lot of attention over the years. Whereas most research states that economic factors (Abeysinghe & Gu, 2011), or social factors (Jabareen, 2005) are considered most important when deciding on a house, preferences are also shaped by external factors. Changes in, for example, work location, financial situation, or the establishment or breakup of a family should also be considered (Palicki, 2020).

Furthermore, research on residential housing choice often explains housing preference as being based on homebuyer demographics such as age, gender, household composition, current housing situation and income. Palicki (2020) argues that there is a relationship between a person's age and their needs regarding housing, which is known as the lifecycle theory. Owning a dwelling, having a garden and access to nature were considered most important by the youngest cohort. Older age groups, on the other hand, stress the importance of single-storey housing and often move to smaller dwellings close to public services, such as hospitals (Andersson, 2018).

When talking about housing preferences, Sbakhi et al., (2018) distinguish between intrinsic- and extrinsic attributes as these are important factors in housing choice. Whereas intrinsic attributes include, among others, the number of rooms and size of the property, extrinsic attributes include gardens, open spaces, and the location of the property (Sbakhi et al., 2018). Coolen & Hoekstra (2001) state that homebuyers in the Netherlands value the intrinsic attributes higher when purchasing a house. This research predominantly focuses on the intrinsic attribute 'number of rooms' and extrinsic attributes 'location of the property' and 'garden'.

2.3 CONCEPTUAL MODEL

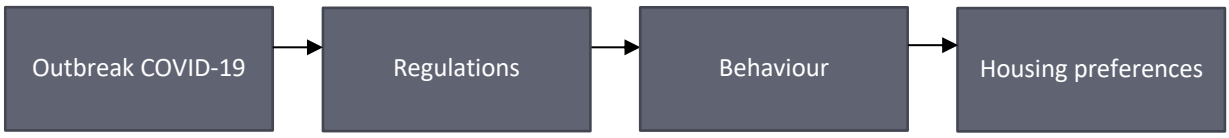


Figure 1: Conceptual Model (author, 2022)

The conceptual model illustrates the relationship between the COVID-19 crisis and the housing preferences of homeowners in the Netherlands. As can be seen in *Figure 1,* it will be investigated whether the implemented regulations to contain the spread of the virus followed by behavioural changes of people have resulted in changing housing preferences of homeowners. These regulations include the non-pharmaceutical interventions by the government, such as staying- and working at home and social distancing in public (Haug et al., 2020). It is argued that these isolation and distancing measures have influenced elements such as work and consumption, but also the conception of the home (Badenes-Plá, 2022). There are several reasons to suspect that large-scale events, like the COVID-19 pandemic, affect behavioural preferences. Xavier et al. (2022) find that the uncertainty resulting from the pandemic includes panic, fear, and impatience, leading to risk and ambiguity aversion. Furthermore, Yu & Fujii (2022) add to this and argue that the restrictions also had a significant psychological impact. For example, family relationships get worse due to spending an increasing amount of time with each other, or people feel lonelier because they are not allowed to go out. Prior research has shown that these behavioural changes are likely to influence one's choices and preferences (Haug et al., 2020).

2.4 HYPOTHESES

There exists much contradiction regarding the impact of the COVID-19 pandemic on housing preferences. Although a change in preferences is expected, what this change encompasses is under discussion (Bons, 2021). According to Hegger (2020), houses with a garden and an office have become more popular and she states that home buyers are looking for bigger and greener. Therefore, It is expected to see a change in intrinsic housing preferences. As working from home, studying, and exercising all must happen in one house, there is likely an increasing preference for a more spacious house with room for all these activities. Also, demand for houses with a garden is increasing, therefore a change in extrinsic housing preference is likely to be found. It is assumed that the main reason for these changing housing preferences is the fact that people spend more time at home. Furthermore, as mentioned before, city life becomes less attractive due to the higher level of infections, and an increasing interest in the countryside is awakened. Although Hueck (2020) argues that the COVID-19 crisis is not driving homeowners out of the city and that homeowners prefer living in an urban environment, it is expected to find an increase in migration from the city to the countryside.

3. METHODOLOGY

3.1 OPERATIONALIZATION

To answer the first sub-question *'What were homeowners' housing preferences before the COVID-19 crisis?'*, the second sub-question *'What are homeowners' housing preferences during the COVID-19 crisis?'* and the third '*What do homeowners expect their housing preferences to be after the COVID-19 crisis?'*, a survey has been created. A survey was the preferred method, as the data collected will be easily quantifiable and can be used for statistical analysis. This method is preferred over interviews as it is easier to obtain much data quickly which can then be easily transformed into statistics needed for quantitative analysis (Chipeta, n.d.). Quantitative analysis was preferred over qualitative analysis as the results obtained will facilitate making predictions, testing causes and effects and drawing generalized conclusions.

The relevant study population for quantitative analysis is homeowners in the Dutch housing market. To make sure this is the case, one of the questions of the survey is, '*Are you a homeowner or a tenant?*'. If the answer is 'tenant', their response will not be considered. The sampling method that is used is convenience sampling. This method is based on the availability and willingness of the participants to participate in the research (Burt et al., 2009). This method was found the most effective way to quickly recruit respondents who are geographically dispersed and to make sure homeowners in all parts of the Netherlands were included in the research. The sample needs to be representative, therefore the sample must include both men and women, and respondents need to be recruited throughout all the provinces of the Netherlands. Furthermore, there also needs to be an equal division between people living in urban areas and people living in rural areas.

The questionnaire *(Appendix 1),* starting with a short introduction about the research and the rights of the participant followed by the survey questions, was created in Qualtrics and spread via WhatsApp. The survey consists of eight introductory questions followed by seven statements regarding housing preferences. On a scale of 1-10, the respondent had to answer to what extent this statement applied to them before, during and after the COVID-19 crisis.

To answer the fourth sub-*question 'In what ways did these preferences change, and how can the COVID-19 crisis have led to these changes?'*, the answers to the sub-questions have been compared and differences and similarities were investigated. Also, secondary literature is used to investigate how the COVID-19 crisis could have led to these changes.

To answer the final research *question 'What is the effect of the COVID-19 crisis on homeowners' housing preferences in the Netherlands?'* the data from the survey in combination with the secondary data is used, to find whether a change in housing preferences can be observed.

3.2 DATA ANALYSIS SCHEME

After the data was collected, it was exported to Excel and analysed using SPSS. To find out if homeowners' housing preferences have changed during the COVID-19 crisis and in what way, a Paired Samples T-test was used to compare the mean rates of the groups 'Before' and 'After'. The complete output of the T-test can be found in *Appendix 2.* The dependent variable is housing preferences, and the independent variables are age, gender, province of residence, household composition, living urban or rural, and type of residence. First, frequency tables and histograms have

been made to show to what extent the different statements apply to the participants. The null-hypothesis for the test is*: 'In the population, there is no difference in the means of the groups before and after the COVID-19 crisis'.* A significance level of 0.05 is used.

Subsequently, multivariate analysis has been conducted to investigate if the changes in housing preferences found with the T-test could be explained by the factors; age, gender, province of residence, household composition, living urban or rural, and type of residence (*Appendix 6*. The dependent variable used is a newly computed variable, the group 'After the COVID-19 crisis' minus the group 'Before the COVID-19 crisis'. The independent variables are the factors mentioned above. First, the conditions of linearity, normality and heteroscedasticity had to be satisfied (*Appendix 5),* whereafter the following hypothesis has been tested*). 'In the population, there is no relationship between housing preferences and age, gender, province of residence, household composition, living urban/rural, and type of residence'.* Due to this being a multivariate analysis, it is decided to look at the Adjusted R Square as this statistic corrects for having more than one explanatory variable in the model. Furthermore, the standardized beta coefficient, which allows for direct comparison of the effects of the different independent variables, has been presented for the statements 'I want to live in a green environment' and 'I want to live in a house with an extra room'. These statements have been chosen as then both intrinsic and extrinsic housing attributes would be looked at, and additionally their adjusted R square values were significant. A significance level of 0.05 is used.

3.3 ETHICS

To adhere to the ethical considerations, this research will follow the Nederlandse Gedragscode Wetenschappelijke Integriteit (2018) which describes the code of conduct for research integrity across the Netherlands and exists of the five principles; honesty, scrupulousness, transparency, independence, and responsibility.

The data obtained from the survey will only be utilised for educational purposes and will be handled with honesty and preciseness. The participants will not be influenced by the researcher and are allowed to withdraw from the research at any time, to follow the principle of responsibility. Also, they have the right to anonymity, meaning that their names will not be published anywhere. Moreover, this study will be guided by scientific methods and scientific literature to do justice to the principle of independence. To communicate this to the respondents, a consent form was created which had to be read and approved before being able to open the survey and answer the questions.

3.4 DATA REFLECTION

3.4.1 RELIABILITY

For the theoretical framework mostly academic sources or government sites as Rijksoverheid and RIVM have been used, which are reliable. Although, sometimes non-academic sources, such as newspapers had to be used, as they give a general overview of the housing market today. These sources might not be as reliable. The questionnaire was a reliable way to get data, as all participants were to answer the same questions. Also, they were only able to open and answer the survey once, which means there will not be any duplicates. The sample, n=70, became n=51 after cleaning the

data. This is still sufficient to carry out statistical tests, however, it is not representative of the whole population. The sample, on the other hand, included a good mix of the different age groups, males/females, provinces of residence, and whether the respondents live urban or rural. Which makes it, unless the relatively small sample, fairly representative. The only downside is that the province of Friesland and the age group 19-25 are overrepresented.

3.4.2 VALIDITY

The validity of the data gathered by the survey can be guaranteed because the data is collected first-hand. The questions from the questionnaire could only be filled in once, which makes each response unique. Furthermore, introductory questions were asked to make sure the respondents fitted into the target population. One of the introductory questions was 'Are you a home-owner or a tenant?' Although it was specifically asked for owner-occupiers to fill out the survey, the sample also included tenants. By asking this question, the tenants were filtered out during the data cleaning.

3.4.3 TRUSTWORTHINESS

While conducting this research, the ethical considerations were kept in mind. Therefore, this research could be seen as trustworthy. However, there are a few points that have impacted the trustworthiness and should be considered for future research. Firstly, the sample size could have been higher, to get a more representative and complete overview of the population. Secondly, a disadvantage of distributing a questionnaire online is that people can pretend to be part of the target population by filling in a different age or saying that they are owner-occupiers whilst they are not. This could account for less trustworthiness.

4. RESULTS

4.1 QUANTITATIVE ANALYSIS

4.1.1 DESCRIPTIVE STATISTICS

The questionnaire that was created, obtained 51 responses. Out of these, 31 were female and 20 were male (*Appendix 2*, Figure 1). The respondents varied in age, with the groups 19-25 and 56-65 being the largest categories (*Appendix 2*, Figure 2). Most of the respondents, 35,3%, live in the province of Friesland (*Appendix 2*, Figure 3). However, except for Overijssel, all provinces of the Netherlands are represented in the sample.

Next to these basic demographic questions, respondents were also asked to fill in their household composition (*Appendix 2*, Figure 4), their current type of residence (*Appendix 2*, Figure 5), and whether their house is in a rural area or an urban area (*Appendix 2*, Figure 6). 'Living together with an adult, but without children' is the most frequently mentioned household composition (54.9%), followed by 'living together with an adult, with children' (23.5%). The remaining part of the respondents, 21.6%, lived alone. The majority of the respondents lived in either an apartment/flat (29.4%) or a detached house (29.4%). *Table 1* shows the mean of the rates given by the respondents on the different statements during the different periods, the complete output can be found in *Appendix 3.*

As can be seen in *Table 1,* appreciating a house with a garden got the highest rates overall, but it did not experience an increase due to the pandemic. Having a house with an extra room and wanting to live in a green environment, on the other hand, are considered more important by the respondents during the COVID-19 crisis. Wanting to live close to work applied less to the respondents during the crisis, as can be seen by the lower rate.

Statement	**Before**	**During**	**After**
I want to live close to family and friends	4.90	5.45	5.32
I want to live in a green environment	7.2	7.98	7.67
I want to live closer to facilities	5.88	5.62	5.86
I want to live close to my work	5.20	4.57	5.18
I prefer living in a house with an extra room	7.00	8.02	7.82
I appreciate having a house with a garden more	8.33	8.69	8.61
I consider moving	3.37	3.53	3.34

Table 1: Mean rates given by the respondents (author,2022)

4.1.2 RESULTS PAIRED SAMPLES T-TEST

Statement	**Sig.**
I want to live close to family and friends	,021
I want to live in a green environment	,004
I want to live close to facilities	,855
I want to live close to my work	,547
I prefer living in a house with an extra room	,004
I appreciate having a house with a garden more	,065
I consider moving	,741

Table 2: Results paired samples t-test (author, 2022)

As can be seen in *Table 2*, there turned out to be a significant difference between the two groups regarding the statement 'I want to live close to family and friends', which implies that there is indeed a change observable. When looking at *Table 1,* living close to family and friends is indeed valued higher after the pandemic. A paper by Haslag & Weagley (2021) examines how the COVID-19 pandemic has affected the location decisions of households. They found that households were moving more for non-work-related reasons, like family and lifestyle, compared to the pre-pandemic times. One of the main reasons for this is that people have experienced increased flexibility due to the shift to remote work.

'I want to live in a green environment' also is significant when comparing the means of the groups 'Before' and 'After'. This implies that people consider living in a green environment more important after the pandemic, compared to before. This can be explained by the fact that urban parks and other large open outdoor spaces provided residents with a safe place for outdoor activities and social interaction in a green environment. It served as a buffer area to maintain favourable health and quality of life (Xie et al., 2020). A study that reported psychological benefits to humans who are exposed to nature, states that humans living near green spaces have lower mental distress and higher well-being (White et al., 2013). Newspaper articles from the United Kingdom (the Guardian, 2020), the United States (NBCnews, 2021), and the Netherlands (NOS, 2020) all speak of an increase in migration from the urban to the countryside. However, according to the NOS (2020), this trend was already visible but intensified by the COVID-19 crisis.

Elli et al. (2015) state that deciding where to live is the result of a set of decisions, trade-offs, preferences, and priorities influenced by age, and by the attributes and amenities that the different parts of a city offer. They found that city centre residents are often young and want to live close to facilities. The further away from the vibrant city, the older the residents get, the less they want to live close to facilities, and the more they admire living in a green space. As the sample of this research consists of different age groups, it is no surprise that the outcome regarding the statement 'I want to live close to facilities' did not turn out significant.

Another significant result (p=.034) can be found concerning the statement 'I want to live close to my work' when comparing the groups 'Before' and 'During' (*Appendix 2).* Whether a person lives close or far from his or her work is often determined by the height of the commuting costs. If commuting costs are high or if the infrastructure needed is just not there, one is more likely to live close to work (Rouwendal & Nijkamp, 2004). Doling & Arundel (2020) argue that working from home cuts off the geographical link between the home and work location, which means that commuting distance no longer has to play the most important role in the decision about where to live. Also, when looking at *Table 1*, there is a steep decline in importance observable when comparing the groups 'before' and 'during'. Proximity to jobs is especially important for low-skilled workers, as they tend to be more constrained by the cost of housing and commuting and therefore search for jobs with short commuting distances. High-skilled workers, on the other hand, can afford to commute and have a broader choice in choosing where to live and work (Kneebone & Holmes, 2015). When comparing 'Before' to 'After', there is no significant difference found, implying that people expect that living close to work becomes more important again when the pandemic is over.

There was also a significant difference found in the category 'I appreciate living in a house with an extra room'. An increase in demand for larger homes is considered a result of the COVID-19 crisis. Families are living 24/7 living with each other, and are studying, working, and exercising under the same roof. Therefore, houses with a dedicated office- or exercise space have become more attractive (JCHS, 2021). To conclude, ABN AMRO (2020) states that nowadays people will appreciate an extra room to work in peace more than ever. This can be confirmed by looking at the means of the groups.

There were no significant results in relation to the statement 'I appreciate having a house with a garden more'. This could be the result of the fact that the increasing demand for housing with more garden space is a long-term trend and was already visible before the onset of the COVID-19 crisis (Cheshire et al. 2021). Therefore, respondents have considered having a garden before, during and after the crisis of the same importance, and thus given it nearly the same rates. This is, however, contradictory to the findings of Funda (2020) and Erfani & Bahrami (2022). They state that citizens appreciate living in a house with direct access to green open spaces more during the pandemic, and since then it has become their highest priority when buying a home.

4.1.3 RESULTS MULTIVARIATE ANALYSIS

Statement	**Adjusted R^2**	**Sig.**
I want to live close to family and friends	.134	.052
I want to live in a green environment	.146	.042
I want to live closer to facilities	.003	.421
I want to live close to my work	.066	.177
I prefer living in a house with an extra room	.144	.043
I appreciate having a house with a garden	.012	.376

Table 3: Results Multivariate Analysis (author, 2022)

Although some of the regression models, in general, were significant, see *Table 3*, all independent values individually turned out to be insignificant. The null hypothesis '*In the population, there is no relationship between housing preferences and age, gender, province of residence, urban/rural, and type of residence,* cannot be rejected. Furthermore, R-squared, the statistic which indicates the percentage of the variance which is explained by the independent variable, is not equal to or higher than .300. This means that the model does not do a good job in explaining the changes in de dependent variable. Therefore, it can be said that the independent variables that are mentioned above are not the reason why this change in housing preferences can be observed. This makes it likelier that an external factor, like the COVID-19 crisis, has influenced this.

Table 4 shows that there is a negative relationship between 'Age' and whether a person wants to live in a green environment, meaning that the older a person gets, the less they desire to live in a green environment. This corresponds to the findings of Andersson (2018), which conclude that having a garden and access to nature is considered most important by young people.

Independent variable	**Standardized Beta Coefficient**
Age	-.259
Gender	-.250
Province of Residence	. 089
Location of the House (urban/rural)	-.100
Household Composition	-.142
Type of Residence	-.196

Table 4: Standardized Beta Coefficients of dependent variable 'I want to live in a green environment' (author, 2022)

The relationship between the explanatory variables and the statement 'I want to live in a house with an extra room' can be viewed in *Table 5.* As can be seen, the relationship with 'Province of Residence' is the strongest. This could be explained by the fact that the Netherlands consists of both urban and rural provinces. A characteristic of a rural area is that the houses are often more spacious and spread apart, whereas in urban areas they are smaller, and people live closer in proximity (Weekley, 1988). Thus, people in urban provinces might be more in need of an extra room than people living in rural provinces.

Independent variable	**Standardized Beta Coefficient**
Age	-.056
Gender	-.234
Province of Residence	.352
Location of the House (urban/rural)	.024
Household Composition	.047
Type of Residence	-.154

Table 5: Standardized Beta Coefficients of dependent variable 'I want to live in a house with an extra room' (author, 2022).

5. CONCLUSION

5.1 MAIN FINDINGS

This concluding chapter will answer the central question of this thesis: 'What is the effect of the COVID-19 crisis on homeowners' housing preferences in the Netherlands?' This will be addressed in two sections. Firstly, through a concise summary of the sub-questions and secondly through drawing conclusions from the research.

First, when looking at homeowners' housing preferences before the COVID-19 crisis and it was stated that this depends on a person's position in the life cycle. Furthermore, quantitative analysis showed that Dutch homeowners prefer living in a house with a garden, and this has not changed throughout the COVID-19 crisis. Also, it was found that external factors could influence housing preferences, with an example being the COVID-19 crisis. The COVID-19 crisis had a big impact on the behaviour of consumers in general, and a change in preferences could also be observed in the housing market. An increase was found in people searching for detached houses with gardens, and on the other hand, a decrease in searches for apartments. Next to these changes found in the literature, the quantitative analysis found that living close to family and friends and wanting to live in a green environment have grown in importance during the COVID-19 crisis. What people's preferences after the crisis will entail is harder to answer. It has been observed that people expect to be working from home after the COVID-19 crisis, resulting in an increase in migration from the city to the countryside. Besides, when spending more time at home, having an extra room is still preferred. Also, after the COVID-19 crisis, people still expect that living in a green environment and being close to family and friends is still of importance to them.

These changes in housing preferences most likely occur because preferences are constant dynamic operations and depend on the behaviour of people. As people's behaviour changed during the COVID-19 crisis, due to all the restrictions, this led in some cases to a shift in housing preferences. To conclude, it can be said that a difference in housing preferences can be observed in the Netherlands. Due to the restrictive measures during the pandemic phase, people spent more time at home. The home was no longer only a place to live, it became the place to live, work, exercise and relax. Almost one's whole daily life took place at home. This resulted in people reconsidering their needs and preferences. Living close to family and friends and living in a green environment higher became more important. However, whether this shift can only be explained by the COVID-19 crisis or if other factors, which have not been included in this research, have also influenced this cannot be said with certainty.

The results of this research are in accordance with research done by Bons (2021) which states that the crisis had the biggest effect on the preferred number of rooms in a dwelling. In addition, research done in South Korea argues that people perceive that their daily routine changed substantially after the pandemic, and they do not expect it to come back as before (Kang, 2021). This is contradictory to the findings of this research, which finds significant differences between the groups during-, and after the COVID-19. A possible explanation for this could be that the research in South Korea was done in the early stages of the pandemic when people were less optimistic about the future compared to now. Guglielminetti et al. (2021) conclude that a large increase in demand for houses located in areas with a lower population density can be observed, due to a shift in preferences towards larger houses with outdoor space. This is in line with the findings of this research. They,

furthermore, argue that the fear of contagion, lockdown measures and the ability to work from home shape this shift in housing demand. The increase in demand for houses with gardens is confirmed by Stankowska & Stankowska-Mazur (2022), who state that this can be interpreted as a desire to become more self-sufficient when confronted with pandemic-related restrictions.

5.2 LIMITATIONS

As already mentioned, the number of respondents was relatively low and therefore might not be representative of the whole population. If this research were to be repeated, it is advised to ask more specific questions regarding respondents' feelings about the COVID-19 crisis. A limitation of this research is that the multivariate analysis was not able to prove a relationship between the COVID-19 crisis and the change in housing preferences, as there was no specific question which could prove a relationship between the COVID-19 crisis and the change in housing preferences in the questionnaire. Therefore, the regression was only used to exclude other factors which might impact one's housing preferences. Besides, due to the lack of dummy variables, the multivariate analysis was not able to compare the different categories of the variables with each other. This made saying something about a specific gender or age group not possible.

5.3 RECOMMENDATIONS

It is recommended to carry out further research on the topic of housing preferences and COVID-19, preferably with a larger sample size. As mentioned before, there is limited research on this topic, which makes sense as it is a relatively 'new' topic. Besides, also a limited number of countries are represented in the literature. It would be interesting to compare countries with each other and see if the same changes can be observed in different parts of the world. Also, each country could decide on the strictness of the COVID-19 measures which might have influenced the housing preferences of the inhabitants. Besides, in a few years, it would be interesting to see if these changes in housing preferences are still visible.

REFERENCES

Abeysinghe, T., & Gu, J. (2011). Lifetime income and housing affordability in Singapore. *Urban Studies* (Edinburgh, Scotland), *48*(9), 1875–1891. https://doi.org/10.1177/0042098010380956.

ABN AMRO (2020). *Woningmarktmonitor.* Retrieved on 07-03-2022 from https://assets.ctfassets.net/1u811bvgvthc/4PYuGN7hWNJ16r62Rkfc6h/dd923685e8415284 12e05cd8aad14d67/200407-Woningmarktmonitor-Corona-zet-streep-door-hausse-corr.pdf

Andersson, E., Abramsson, M., Malmberg, B. (2018). Patterns of changing residential preferences during late adulthood. *Ageing and Society*. 39. 1-30. 10.1017/S0144686X18000259.

Badenes-Plá, N. (2022). *Changes in Behaviour Induced by COVID-19: Obedience to the Introduced Measures*. In: Boado-Penas, M.d.C., Eisenberg, J., Şahin, Ş. (eds) Pandemics: Insurance and Social Protection. Springer Actuarial. Springer, Cham. https://doi.org/10.1007/978-3-030-78334-1_8

Burt, J.E., Barber, G.M. & Rigby, D.L. (2009). *Elementary Statistics for Geographers.* 3rd Edition. New York, London: The Guilford Press.

Bons, M. (2021). *A crisis that triggered change: How the Corona crisis impacted (aspiring) homeowners' housing preferences.* Master thesis management in the built environment, TU Delft.

CBS (2020). *Bijna 4 op de 10 werkenden werkten vorig jaar thuis.* Retrieved on 07-03-2022 from https://www.cbs.nl/nl-nl/nieuws/2020/15/bijna-4-op-de-10-werkenden-werkten- vorigjaar-thuis

Charumilind, S., Craven, M., Lamb, J., Sabow, A., Singhai, S., Wilson, M. (2022). *When will the COVID-19 pandemic end?* Retrieved on 17-05-2022 from https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/whenwill-the-covid-19-pandemic-end

Cheshire, P., Hilber, C., Schöni, O. (2021). The pandemic and the housing market: a Britsh story. *Centre for Economic Performance.* London School of Economics and Political Science: London.

Chipeta, C. (n.d.). *Best Data Collection Methods for Quantitative Research*. Retrieved on 07-03-2022 from: Best Data Collection Methods for Quantitative Research - Conjoint.ly (conjointly.com)

Coolen, H., Hoekstra, J. (2001). Values as determinants of preferences for housing attributes. *Journal of Housing and the Built Environment,* 16, 285-306.

Doling, J., Arundel, R. (2020). *The Home as Workplace*, CUS Working Paper Series no.43. *Centre for Urban Studies, University of Amsterdam.* Retrieved on 07-03-2022 from https://urbanstudies.uva.nl/content/working-paper-series/working-paper-series- no.43.html?origin=%2Bq1hThT4TCOhbrnggQ2NMA&cb

Elli, T., Serwicka, I., Swinney, P. (2015). Urban demographics Why people live where they do. 10.13140/RG.2.1.1053.8965.

Erfani, G., Bahrami, B. (2022). COVID and the home: the emergence of new urban home life practiced under pandemic-imposed restrictions, *Cities & Health*, DOI: 10.1080/23748834.2022.2029241

European Central Bank (2021). *The euro area housing market during the COVID-19 pandemic.* Retrieved on 31-05-2022 from https://www.ecb.europa.eu/pub/economic-bulletin/articles/2021/html/ecb.ebart202107_03~36493e7b67.en.html

Funda (2020). *Coronacrisis beïnvloedt tevredenheid over woonsituatie, onderzoek toont veranderende woonwens.* Retrieved on 07-03-2022 from https://pers.funda.nl/189066coronacrisis-beinvloedt-tevredenheid-over-woonsituatie

Guglielminetti, E., Loberto, M., Zevi, R., Zizza,R. (2021). Living on my own: the impact of the Covid-19 pandemic on housing preferences. *Questioni di Economia e Finanza (Occasional Papers)* 627, Bank of Italy, Economic Research and International Relations Area.

Haas, M. de., Faber, R.,& Hamersma, M. (2020). How COVID-19 and the Dutch 'intelligent lockdown' change activities, work and travel behaviour: Evidence from longitudinal data in the Netherlands. *Transportation Research Interdisciplinary Perspectives.* 6. 100150. 10.1016/j.trip.2020.100150.

Haslag, P.H. & Weagley, D. (2022). From L.A. to Boise: How Migration Has Changed During the COVID-19 Pandemic. *SSRN,* http://dx.doi.org/10.2139/ssrn.3808326

Haug, N., Geyrhofer, L., Londei, A. (2020) Ranking the effectiveness of worldwide COVID-19 government interventions. *Nature Human Behaviour* **4,** 1303–1312. https://doi.org/10.1038/s41562-020-01009-0

Hegger, F. (2020). *Meer groen en een groter huis: we willen anders wonen door corona.* Retrieved on 13-06-2022 *from https://www.rtlnieuws.nl/economie/life/artikel/5176892/woonwensen-woningmarkt-koop-huur-funda-nvm-landelijk-wonen-randstad*

Hueck, H. (2020). Corona drijft huizenbezitter nog niet de stad uit. *Financieel Dagblad* Retrieved on 13-06-2022 from https://fd.nl/ondernemen/1345959/corona-drijft- huizenbezitter-nog-niet-de-stad-uit

IGI Global (1988). *What are Housing Preferences.* Retrieved on 07-03-2022 from https://www.igi-global.com/dictionary/housing-consumption/86629

Jabareen, Y. (2005). Culture and housing preferences in a developing city. *Environment and Behavior*, *37*(1), 134–146. https://doi.org/10.1177/0013916504267640.

JCHS (2021). *The pandemic reveals the need for space, but building smaller units remains essential. Retrieved on 07-03-2022 from* https://www.jchs.harvard.edu/blog/pandemic- reveals-need-space-building-smaller-units-remains-essential

Kang, B., Won, J., Kim, E.J. (2021). COVID-19 Impact on Residential Preferences in the Early- Stage Outbreak in South Korea. *International Journal of Environmental Research and Public Health,* 18, 21, 11207.

Kneebone, E., Holmes, N. (2015). The growing distance between people and jobs in metropolitan America. *Brookings.* Retrieved on 15-05-2022 from https://www.brookings.edu/wp-content/uploads/2016/07/srvy_jobsproximity.pdf

Komarova, N.L., Schang, L.M., Wodarz, D. (2020). Patterns of the COVID-19 pandemic spread around the world: exponential versus power laws. *Journal of the Royal Society Interface,* 17,170, https://doi.org/10.1098/rsif.2020.0518

Matheson, J., Nathan, M., Pickard, H., Vanino, E. (2020). *Why has coronavirus affected cities more than rural areas?* Economics Observatory. Retrieved on 11-03-2022 from https://www.economicsobservatory.com/why-has-coronavirus-affected-cities-more-rural- areas

Muhyi, M.M., Adianto, J. (2021). Literature Review: The Effects of Covid-19 Pandemic-Driven Home Behavior in Housing Preference. *Smart City,* 1,1. Available at: https://scholarhub.ui.ac.id/smartcity/vol1/iss1/2

NBCnews (2021). *Millions of Americans moved during the pandemic – and most aren't looking back.* Retrieved on 07-03-2022 from https://www.nbcnews.com/business/business- news/millions-americans-moved-during-pandemic-most-aren-t-looking-back-n1252633

Nederlandse Gedragscode Wetenschappelijke Integritieit (2018). *Wetenschappelijke integriteit.* Retrieved on 10-03-2022 from https://www.nwo.nl/nederlandse-gedragscode- wetenschappelijke-integriteit

Nederlandse Vereniging van Makelaars (2020). *Vastgoedmarkt in beeld; 2019 in feiten en cijfers.* NVM. Retrieved on 07-03-2022 from https://www.nvm.nl/media/0mjb3afb/vastgoedmarkt-in-beeld-2019.pdf

Nijskens, R., Lohuis, M. (2019). The Housing Market in Major Dutch Cities. In: Nijskens, R.,

Lohuis, M., Hilbers, P., Heeringa, W. (eds) *Hot Property.* https://doi.org/10.1007/978-3- 03011674-3_3

NOS (2020). *Corona versnelt de trek naar het platteland, zeggen makelaars.* Retrieved on 0703-2022 from https://nos.nl/nieuwsuur/artikel/2351705-corona-versnelt-de-trek-naar- hetplatteland-zeggen-makelaars

OECD (2020*). The territorial impact of COVID-19: Managing the crisis across levels of government*. OECD Publishing: Paris

Palicki, S. (2020). Housing preferences in various stages of human life cycle. *Real Estate Management and Valuation*, 28(1), 91-99.

Rijksoverheid (2020). *Letterlijke tekst persconferentie minister-president Rutte en minister Bruins naar aanleiding van de maatregelen tegen verspreiding coronavirus in Nederland.* Retrieved on 07-03-2022 from https://www.rijksoverheid.nl/onderwerpen/coronavirus-tijdlijn/documenten/mediateksten/2020/03/12/persconferentie-minister-president-rutte- enminister-bruins-naar-aanleiding-van-de-maatregelen-tegen-verspreiding-coronavirus-in- nederland

Rijksoverheid (2020). *Patiënt met nieuw coronavirus in Nederland.* Retrieved on 07-03-2022 from https://www.rijksoverheid.nl/onderwerpen/coronavirus- tijdlijn/nieuws/2020/02/27/patient-met-nieuw-coronavirus-in-nederland

RIVM (2020). *Toekomst en werk.* Retrieved on 07-03-2022 from https://www.rivm.nl/gezond-en-veilig-werken/werk-toekomst

Rouwendal, J., Nijkamp, P. (2004). Living in Two Worlds: A Review of Home-to-Work Decisions. Growth and Change, 35: 287-303. https://doi-org.proxy-ub.rug.nl/10.1111/j.14682257.2004.00250.x

Sbakhi, B., Mohd S., Mohd, W., Esa, M. (2018). Investigation study towards housing attributes effect house buyers*. International Journal of Engineering and Technology*. 7. 47-50

Stankowska, A., Stankowska-Mazur, I. (2022). The Third Wave of COVID-19 versus the Residential Preferences in Poland: An Assessment of Economic Factors and Psychological Determinants. *Sustainability*,*14*,1339. https://doi.org/10.3390/su14031339

The Guardian (2020). *Escape to the country: how Covid is driving an exodus from Britain*'s cities https://www.theguardian.com/world/2020/sep/26/escape-country-covid-exodus- britain-cities-pandemic-urban-green-space

Weekley, I. (1988). Rural Depopulation and Counterurbanisation: A Paradox. *Area*, *20*(2), 127–134.

White, M.P., Alcock, I., Wheeler, B.W., Depledge, M.H. (2013). Would you be happier living in a greener urban area? A fixed-effects analysis of panel data. Psychol. Sci. 24(6), 920–928. https://doi.org/10.1177/0956797612464659.

WHO (2022). *Weekly epidemiological update on COVID-19 – 25 May 2022.* Retrieved on 31-05-2022 from https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---25-may-2022

Xavier, G., Malézieux, A., Spiegelman, E., Tisserand, J.C. (2022). Preferences After Pan(dem)ics: Time and risk in the shadow of Covid-19. Technical report, working paper.

Xie, J., Luo, S., Furuya, K., Sun, D. (2020). Urban Parks as Green Buffers During the COVID-19 Pandemic. *Sustainability,* 12(17), 6751, https://doi.org/10.3390/su12176751

Yu, H., Fujii, R. (2022). Housing design during COVID-19: effects of psychological states on Japanese architecture students, *Journal of Asian Architecture and Building Engineering*, DOI: 10.1080/13467581.2022.2074022

Zinas, B.Z., Jusan, M.B.M. (2012). Housing Choice and Preference: Theory and Measurement. *Social and Behavioral Sciences. 49. 282-292.* 10.1016/j.sbspro.2012.07.026.

APPENDIX 1: *SURVEY QUESTIONS*

This research is investigating to what extent homeowners' housing preferences have changed during the COVID-19 crisis. Therefore, this survey will ask some questions about your current housing situation followed by some statements about housing which might or might not apply to you. Your answers and identity will be anonymized and kept confidential, and the answers will only be used for educational purposes. You have the right to withdraw from the study at any moment. If you are not comfortable with answering a question, you do not have to answer and can move on to the next.

1. What is your age?
    - <18 years old
    - 18-25 years old
    - 25-35 years old
    - 35-45 years old
    - 45-55 years old
    - 55-65 years old
    - 65-75 years old
    - >75 years old
2. What is your gender?
    - Male
    - Female
    - Prefer not to say
3. What is your province of residence?
    - Drenthe
    - Flevoland
    - Friesland
    - Gelderland
    - Groningen
    - Limburg
    - Noord-Brabant
    - Noord-Holland
    - Overijssel
    - Utrecht
    - Zeeland

- Zuid-Holland

4. Are you a homeowner?
    - Yes
    - No
5. What is your household composition?
    - Living alone
    - Living together with an adult, but without children
    - Living with children
6. What is your current type of residence?
    - Apartment or flat
    - Terraced house
    - Semi-detached house
    - Detached house
    - Farmhouse
    - House with a shared kitchen or bathroom
    - Other, namely
7. Are you satisfied with your current housing situation?
    - Yes
    - No
8. On a scale of 1 to 10, to what extent apply the statements below to you?

    with 1 meaning ‘does not apply to me at all’ and 10 meaning ‘totally applies to me’.

Before the COVID-19 crisis, I wanted to live close to family and friends

1	2	3	4	5	6	7	8	9	10

During the COVID-19 lockdown, I want to live closer to family and friends

1	2	3	4	5	6	7	8	9	10

After the COVID-19 crisis, I want to live closer to family and friends

1	2	3	4	5	6	7	8	9	10

Before the COVID-19 crisis, I wanted to live in a green environment

1	2	3	4	5	6	7	8	9	10

During the COVID-19 crisis, I want to live in a greener environment

1	2	3	4	5	6	7	8	9	10

After the COVID-19 crisis, I want to live in a greener environment

1	2	3	4	5	6	7	8	9	10

Before the COVID-19 crisis, I wanted to live close to facilities (like shops, hospitals, restaurants, offices)

1	2	3	4	5	6	7	8	9	10

During the COVID-19 crisis, I wanted to live closer to facilities (like shops, hospitals, restaurants, offices)

1	2	3	4	5	6	7	8	9	10

After the COVID-19 crisis, I want to live closer to facilities (like shops, hospitals, restaurants, offices)

1	2	3	4	5	6	7	8	9	10

Before the COVID-19 crisis, I did not mind living far away from work

1	2	3	4	5	6	7	8	9	10

During the COVID-19 crisis, I do not mind living further away from work

1	2	3	4	5	6	7	8	9	10

After the COVID-19 crisis, I do not mind living further away from work

1	2	3	4	5	6	7	8	9	10

Before the COVID-19 crisis, I preferred a house with an extra room (for example, for an office or gym)

1	2	3	4	5	6	7	8	9	10

During the COVID-19 crisis, I prefer a house with an extra room (for example, for an office or gym)

1	2	3	4	5	6	7	8	9	10

After the COVID-19 crisis, I prefer a house with an extra room (for example, for an office or gym)

1	2	3	4	5	6	7	8	9	10

Before the COVID-19 crisis, I appreciated having a house with a garden / would like to live in a house with a garden

1	2	3	4	5	6	7	8	9	10

During the COVID-19 crisis, I appreciate having a house with a garden more / would like to live in a house with a garden

1	2	3	4	5	6	7	8	9	10

After the COVID-19 crisis, I will appreciate having a house with a garden more / would like to live in a house with a garden

1	2	3	4	5	6	7	8	9	10

Before the COVID-19 crisis, I considered moving

1	2	3	4	5	6	7	8	9	10

During the COVID-19 crisis, I consider moving or have moved

1	2	3	4	5	6	7	8	9	10

After the COVID-19-crisis, I will consider moving or will move

1	2	3	4	5	6	7	8	9	10

APPENDIX 2: *OUTPUT PAIRED SAMPLES T-TEST*

Paired Samples Test

		Paired Differences					t	df	Sig. (2tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	I want to live close to family and friends - before the COVID-19 crisis - I want to live close to family and friends - during the COVID-19 crisis	-,549	1,527	,214	-,979	-,119	-2,567	50	,013
Pair 2	I want to live close to family and friends - during the COVID-19 crisis - I want to live close to family and friends - after the COVID-19 crisis	,137	,749	,105	-,073	,348	1,309	50	,197
Pair 3	I want to live close to family and friends - before the COVID-19 crisis - I want to live close to family and friends - after the COVID-19	-,412	1,236	,173	-,759	-,064	-2,380	50	,021

	crisis								

Pair 4	I want to live in a green environment - before the COVID-19 crisis - I want to live in a green environment - during the COVID-19 crisis	-,784	1,747	,245	-1,276	-,293	-3,206	50	,002
Pair 5	I want to live in a green environment - during the COVID-19 crisis - I want to live in a green environment - after the COVID-19 crisis	,314	1,208	,169	-,026	,654	1,854	50	,070
Pair 6	I want to live in a green environment - before the COVID-19 crisis - I want to live in a green environment - after the COVID-19 crisis	-,471	1,120	,157	-,786	-,156	-3,001	50	,004

Pair 7	I want to live closer to facilities (like shops, hospitals, restaurants, offices) - before the COVID-19 crisis - I want to live closer to facilities (like shops, hospitals, restaurants, offices) - during the COVID-19 crisis	,353	1,339	,187	-,024	,730	1,882	50	,066

Pair 8	I want to live closer to facilities (like shops, hospitals, restaurants, offices) - during the COVID-19 crisis - I want to live closer to facilities (like shops, hospitals, restaurants, offices) - after the COVID-19 crisis	-,333	1,052	,147	-,629	-,037	-2,263	50	,028

Pair 9	I want to live closer to facilities (like shops, hospitals, restaurants, offices) - before the COVID-19 crisis - I want to live closer to facilities (like shops, hospitals, restaurants, offices) - after the COVID-19 crisis	,020	,761	,107	-,195	,234	,184	50	,855
Pair 10	I want to live close to my work - before the COVID-19 crisis - I want to live close to my work - during the COVID-19 crisis	,627	2,059	,288	,048	1,206	2,177	50	,034
Pair 11	I want to live close to my work - during the COVID-19 crisis - I want to live close to my work - after the COVID-19 crisis	-,540	1,581	,224	-,989	-,091	-2,416	49	,019
Pair 12	I want to live close to my work - before the COVID-19 crisis - I want to live close to my work - after the COVID-19 crisis	,100	1,165	,165	-,231	,431	,607	49	,547

Pair 13	I prefer living in a house with an extra room (for example, for an office or gym) - before the COVID-19 crisis - I prefer living in a house with an extra room (for example, for an office or gym) - during the COVID-19 crisis	-1,020	2,093	,293	-1,608	-,431	-3,479	50	,001
Pair 14	I prefer living in a house with an extra room (for example, for an office or gym) - during the COVID-19 crisis - I prefer living in a house with an extra room (for example, for an office or gym) - after the COVID-19 crisis	,196	1,114	,156	-,117	,509	1,257	50	,215
Pair 15	I prefer living in a house with an extra room (for example, for an office or gym) - before the COVID-19 crisis - I prefer living in a house with an extra room (for example, for an office or gym) - after the COVID-	-,824	1,957	,274	-1,374	-,273	-3,006	50	,004

	19 crisis								
Pair 16	I appreciate having a house with a garden more / would like to live in a house with a garden - before the COVID-19 crisis - I appreciate having a house with a garden more / would like to live in a house with a garden - during the COVID-19 crisis	-,353	1,809	,253	-,862	,156	-1,393	50	,170

Pair 17	I appreciate having a house with a garden more / would like to live in a house with a garden - during the COVID-19 crisis - I appreciate having a house with a garden more / would like to live in a house with a garden - after the COVID-19 crisis	,078	1,695	,237	-,398	,555	,330	50	,742
Pair 18	I appreciate having a house with a garden more / would like to live in a house with a garden - before the COVID-19 crisis - I appreciate having a house with a garden more / would like to live in a house with a garden - after the COVID-19 crisis	-,275	1,041	,146	-,567	,018	-1,884	50	,065
Pair 19	I consider moving - before the COVID-19 crisis - I consider moving - during the COVID-19 crisis	-,157	1,605	,225	-,608	,294	-,698	50	,488

Pair 20	I consider moving - during the COVID-19 crisis - I consider moving - after the COVID-19 crisis	,059	1,827	,256	-,455	,573	,230	50	,819
Pair 21	I consider moving - before the COVID-19 crisis - I consider moving - after the COVID-19 crisis	-,098	2,110	,295	-,691	,495	-,332	50	,741

APPENDIX 3: *FREQUENCY TABLES*

Frequencies

Statistics

		I want to live close to family and friends – before the COVID-19 crisis	I want to live close to family and friends – during the COVID-19 crisis	I want to live close to family and friends – after the COVID-19 crisis	I want to live in a green environment – before the COVID-19 crisis	I want to live in a green environment – during the COVID-19 crisis	I want to live in a green environment – after the COVID-19 crisis	I want to live closer to facilities (like shops, hospitals, restaurants, offices) – before the COVID-19 crisis	I want to live closer to facilities (like shops, hospitals, restaurants, offices) – during the COVID-19 crisis	I want to live closer to facilities (like shops, hospitals, restaurants, offices) – after the COVID-19 crisis	I want to live close to my work – before the COVID-19 crisis
N	Valid	51	51	50	51	51	51	51	50	51	51
	Missing	0	0	1	0	0	0	0	1	0	0
Mean		4.90	5.45	5.32	7.20	7.98	7.67	5.88	5.62	5.86	5.20

I want to live close to my work – during the COVID-19 crisis	I want to live close to my work – after the COVID-19 crisis	I prefer living in a house with an extra room (for example, for an office or gym) – before the COVID-19 crisis	I prefer living in a house with an extra room (for example, for an office or gym) – during the COVID-19 crisis	I prefer living in a house with an extra room (for example, for an office or gym) – after the COVID-19 crisis	I appreciate having a house with a garden more / would like to live in a house with a garden – before the COVID-19 crisis	I appreciate having a house with a garden more / would like to live in a house with a garden – during the COVID-19 crisis	I appreciate having a house with a garden more / would like to live in a house with a garden – after the COVID-19 crisis	I consider moving – before the COVID-19 crisis	I consider moving – during the COVID-19 crisis	I consider moving – after the COVID-19 crisis
51	50	51	51	51	51	51	51	51	51	50
0	1	0	0	0	0	0	0	0	0	1
4.57	5.18	7.00	8.02	7.82	8.33	8.69	8.61	3.37	3.53	3.34

APPENDIX 4: *DESCRIPTIVE STATISTICS*

Wat is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	31	60.8	60.8	60.8
	Male	20	39.2	39.2	100.0
	Total	51	100.0	100.0	

Figure 1: Gender of the respondents

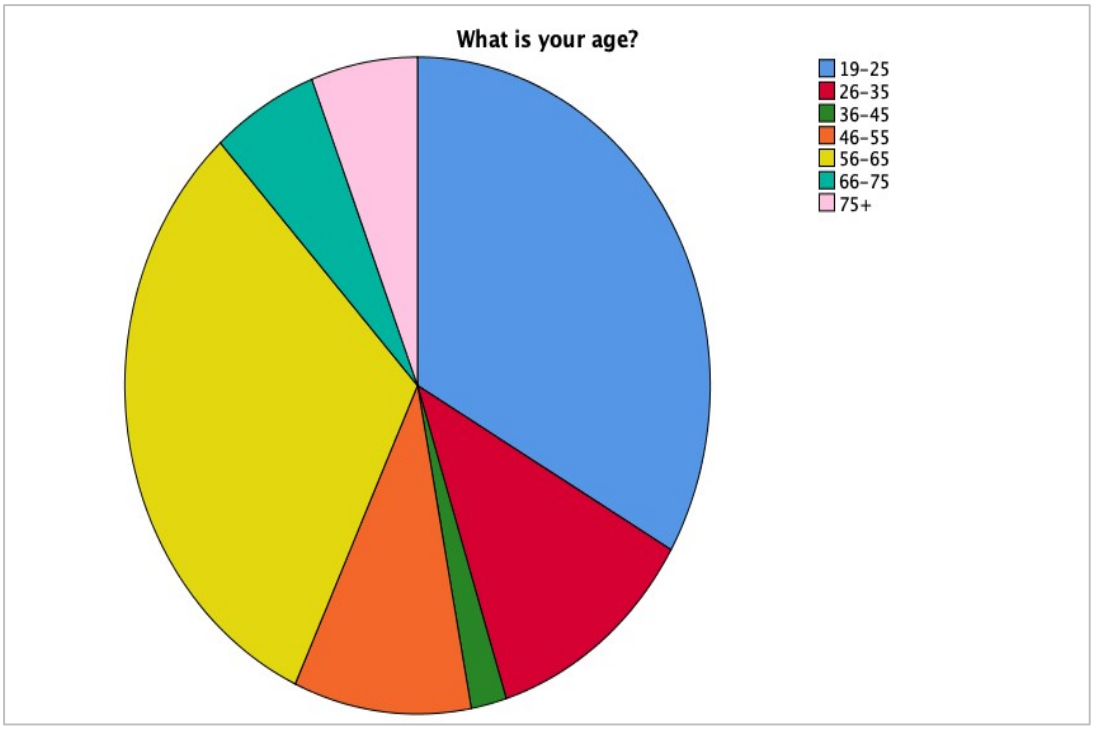


Figure 2: Age of the respondents

What is your province of residence?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Drenthe	8	15.7	15.7	15.7
	Flevoland	1	2.0	2.0	17.6
	Friesland	18	35.3	35.3	52.9
	Gelderland	1	2.0	2.0	54.9
	Groningen	1	2.0	2.0	56.9
	Limburg	2	3.9	3.9	60.8
	Noord-Brabant	5	9.8	9.8	70.6
	Noord-Holland	3	5.9	5.9	76.5
	Utrecht	4	7.8	7.8	84.3
	Zeeland	1	2.0	2.0	86.3
	Zuid-Holland	7	13.7	13.7	100.0
	Total	51	100.0	100.0	

Figure 3: Province of residence of the respondents

What is your household composition?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Living alone	11	21.6	21.6	21.6
	Living together with an adult, but without children	28	54.9	54.9	76.5
	Living together with an adult, with children	12	23.5	23.5	100.0
	Total	51	100.0	100.0	

Figure 4: Household composition of the respondents

What is your current type of residence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Apartment or flat	15	29.4	29.4	29.4
	Detached house	15	29.4	29.4	58.8
	Farmhouse	4	7.8	7.8	66.7
	Semi-Terraced house	9	17.6	17.6	84.3
	Terraced house	8	15.7	15.7	100.0
	Total	51	100.0	100.0	

Figure 5: Current type of residence of the respondents

The location of my house is considered…

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural	22	43.1	43.1	43.1
	Urban	29	56.9	56.9	100.0
	Total	51	100.0	100.0	

Figure 6: Location of the house of the respondents

APPENDIX 5: *MULTIVARIATE ANALYSIS ASSUMPTIONS*

NORMALITY TESTS

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Iwanttoliveclosetofamilyandfriends	.398	50	.000	.708	50	.000
Iwanttoliveclosertofacilities	.410	50	.000	.658	50	.000
Iwanttoliveinagreenenvironment	.325	50	.000	.670	50	.000
Iwanttoliveclosetomywork	.374	50	.000	.694	50	.000
Ipreferlivinginahousewithanextraroom	.315	50	.000	.686	50	.000
Iappreciatehavingahousewithagarden	.425	50	.000	.504	50	.000

a. Lilliefors Significance Correction

MULTICOLLINEARITY TESTS

Correlations

		Iwanttoliveclosetofamilyandfriends	What is your age?	Wat is your gender?	What is your province of residence?	The location of my house is considered...	What is your household composition?	What is your current type of residence
Pearson Correlation	Iwanttoliveclosetofamilyandfriends	1.000	-.454	-.119	.392	.210	-.177	-.015
	What is your age?	-.454	1.000	.176	-.656	-.529	.239	.047
	Wat is your gender?	-.119	.176	1.000	.074	-.111	-.023	-.032
	What is your province of residence?	.392	-.656	.074	1.000	.500	-.250	-.202
	The location of my house is considered...	.210	-.529	-.111	.500	1.000	-.151	-.126
	What is your household composition?	-.177	.239	-.023	-.250	-.151	1.000	.229
	What is your current type of residence	-.015	.047	-.032	-.202	-.126	.229	1.000
Sig. (1-tailed)	Iwanttoliveclosetofamilyandfriends	.	.000	.203	.002	.070	.107	.458
	What is your age?	.000	.	.108	.000	.000	.046	.373
	Wat is your gender?	.203	.108	.	.303	.218	.435	.412
	What is your province of residence?	.002	.000	.303	.	.000	.039	.078
	The location of my house is considered...	.070	.000	.218	.000	.	.144	.190
	What is your household composition?	.107	.046	.435	.039	.144	.	.053
	What is your current type of residence	.458	.373	.412	.078	.190	.053	.
N	Iwanttoliveclosetofamilyandfriends	51	51	51	51	51	51	51
	What is your age?	51	51	51	51	51	51	51
	Wat is your gender?	51	51	51	51	51	51	51
	What is your province of residence?	51	51	51	51	51	51	51
	The location of my house is considered...	51	51	51	51	51	51	51
	What is your household composition?	51	51	51	51	51	51	51
	What is your current type of residence	51	51	51	51	51	51	51

Correlations

		Iwanttoliveinagreenenvironment	What is your age?	Wat is your gender?	What is your province of residence?	The location of my house is considered…	What is your household composition?	What is your current type of residence
Pearson Correlation	Iwanttoliveinagreenenvironment	1.000	-.351	-.268	.265	.155	-.249	-.238
	What is your age?	-.351	1.000	.176	-.656	-.529	.239	.047
	Wat is your gender?	-.268	.176	1.000	.074	-.111	-.023	-.032
	What is your province of residence?	.265	-.656	.074	1.000	.500	-.250	-.202
	The location of my house is considered…	.155	-.529	-.111	.500	1.000	-.151	-.126
	What is your household composition?	-.249	.239	-.023	-.250	-.151	1.000	.229
	What is your current type of residence	-.238	.047	-.032	-.202	-.126	.229	1.000
Sig. (1-tailed)	Iwanttoliveinagreenenvironment	.	.006	.028	.030	.138	.039	.046
	What is your age?	.006	.	.108	.000	.000	.046	.373
	Wat is your gender?	.028	.108	.	.303	.218	.435	.412
	What is your province of residence?	.030	.000	.303	.	.000	.039	.078
	The location of my house is considered…	.138	.000	.218	.000	.	.144	.190
	What is your household composition?	.039	.046	.435	.039	.144	.	.053
	What is your current type of residence	.046	.373	.412	.078	.190	.053	.
N	Iwanttoliveinagreenenvironment	51	51	51	51	51	51	51
	What is your age?	51	51	51	51	51	51	51
	Wat is your gender?	51	51	51	51	51	51	51
	What is your province of residence?	51	51	51	51	51	51	51
	The location of my house is considered…	51	51	51	51	51	51	51
	What is your household composition?	51	51	51	51	51	51	51
	What is your current type of residence	51	51	51	51	51	51	51

Correlations

		Iwanttoliveclosertofacilities	What is your age?	Wat is your gender?	What is your province of residence?	The location of my house is considered…	What is your household composition?	What is your current type of residence
Pearson Correlation	Iwanttoliveclosertofacilities	1.000	.132	.074	-.257	-.285	.078	.029
	What is your age?	.132	1.000	.176	-.656	-.529	.239	.047
	Wat is your gender?	.074	.176	1.000	.074	-.111	-.023	-.032
	What is your province of residence?	-.257	-.656	.074	1.000	.500	-.250	-.202
	The location of my house is considered…	-.285	-.529	-.111	.500	1.000	-.151	-.126
	What is your household composition?	.078	.239	-.023	-.250	-.151	1.000	.229
	What is your current type of residence	.029	.047	-.032	-.202	-.126	.229	1.000
Sig. (1-tailed)	Iwanttoliveclosertofacilities	.	.178	.302	.035	.021	.293	.421
	What is your age?	.178	.	.108	.000	.000	.046	.373
	Wat is your gender?	.302	.108	.	.303	.218	.435	.412
	What is your province of residence?	.035	.000	.303	.	.000	.039	.078
	The location of my house is considered…	.021	.000	.218	.000	.	.144	.190
	What is your household composition?	.293	.046	.435	.039	.144	.	.053
	What is your current type of residence	.421	.373	.412	.078	.190	.053	.
N	Iwanttoliveclosertofacilities	51	51	51	51	51	51	51
	What is your age?	51	51	51	51	51	51	51
	Wat is your gender?	51	51	51	51	51	51	51
	What is your province of residence?	51	51	51	51	51	51	51
	The location of my house is considered…	51	51	51	51	51	51	51
	What is your household composition?	51	51	51	51	51	51	51
	What is your current type of residence	51	51	51	51	51	51	51

Correlations

		Iwanttoliveclosetomywork	What is your age?	Wat is your gender?	What is your province of residence?	The location of my house is considered…	What is your household composition?	What is your current type of residence
Pearson Correlation	Iwanttoliveclosetomywork	1.000	-.210	.068	.299	.242	-.330	-.034
	What is your age?	-.210	1.000	.149	-.653	-.515	.244	.059
	Wat is your gender?	.068	.149	1.000	.092	-.085	-.023	-.022
	What is your province of residence?	.299	-.653	.092	1.000	.493	-.251	-.209
	The location of my house is considered…	.242	-.515	-.085	.493	1.000	-.154	-.137
	What is your household composition?	-.330	.244	-.023	-.251	-.154	1.000	.229
	What is your current type of residence	-.034	.059	-.022	-.209	-.137	.229	1.000
Sig. (1-tailed)	Iwanttoliveclosetomywork	.	.072	.320	.017	.045	.010	.407
	What is your age?	.072	.	.151	.000	.000	.044	.343
	Wat is your gender?	.320	.151	.	.263	.278	.437	.440
	What is your province of residence?	.017	.000	.263	.	.000	.039	.073
	The location of my house is considered…	.045	.000	.278	.000	.	.142	.171
	What is your household composition?	.010	.044	.437	.039	.142	.	.055
	What is your current type of residence	.407	.343	.440	.073	.171	.055	.
N	Iwanttoliveclosetomywork	50	50	50	50	50	50	50
	What is your age?	50	50	50	50	50	50	50
	Wat is your gender?	50	50	50	50	50	50	50
	What is your province of residence?	50	50	50	50	50	50	50
	The location of my house is considered…	50	50	50	50	50	50	50
	What is your household composition?	50	50	50	50	50	50	50
	What is your current type of residence	50	50	50	50	50	50	50

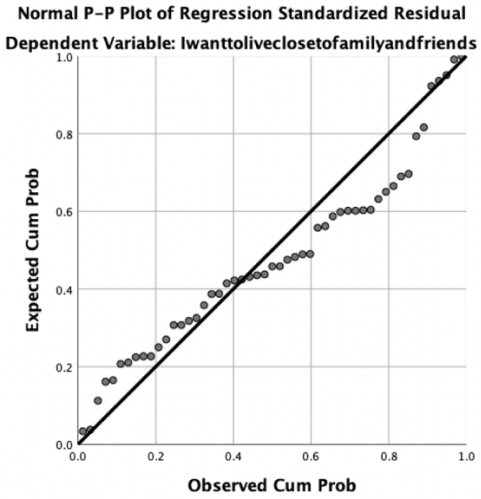
Correlations

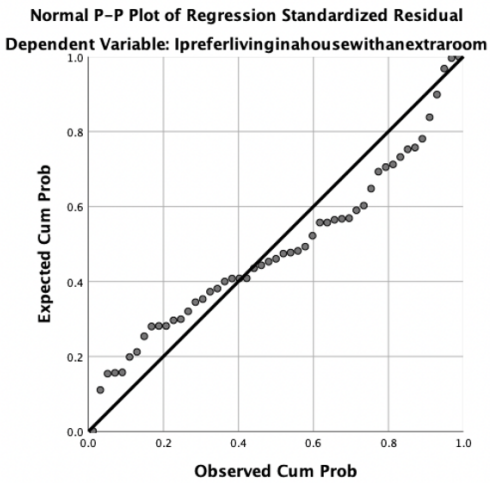
		Ipreferlivinginahousewithanextraroom	What is your age?	Wat is your gender?	What is your province of residence?	The location of my house is considered…	What is your household composition?	What is your current type of residence
Pearson Correlation	Ipreferlivinginahousewithanextraroom	1.000	-.337	-.217	.403	.268	-.088	-.212
	What is your age?	-.337	1.000	.176	-.656	-.529	.239	.047
	Wat is your gender?	-.217	.176	1.000	.074	-.111	-.023	-.032
	What is your province of residence?	.403	-.656	.074	1.000	.500	-.250	-.202
	The location of my house is considered…	.268	-.529	-.111	.500	1.000	-.151	-.126
	What is your household composition?	-.088	.239	-.023	-.250	-.151	1.000	.229
	What is your current type of residence	-.212	.047	-.032	-.202	-.126	.229	1.000
Sig. (1-tailed)	Ipreferlivinginahousewithanextraroom	.	.008	.063	.002	.029	.270	.067
	What is your age?	.008	.	.108	.000	.000	.046	.373
	Wat is your gender?	.063	.108	.	.303	.218	.435	.412
	What is your province of residence?	.002	.000	.303	.	.000	.039	.078
	The location of my house is considered…	.029	.000	.218	.000	.	.144	.190
	What is your household composition?	.270	.046	.435	.039	.144	.	.053
	What is your current type of residence	.067	.373	.412	.078	.190	.053	.
N	Ipreferlivinginahousewithanextraroom	51	51	51	51	51	51	51
	What is your age?	51	51	51	51	51	51	51
	Wat is your gender?	51	51	51	51	51	51	51
	What is your province of residence?	51	51	51	51	51	51	51
	The location of my house is considered…	51	51	51	51	51	51	51
	What is your household composition?	51	51	51	51	51	51	51
	What is your current type of residence	51	51	51	51	51	51	51

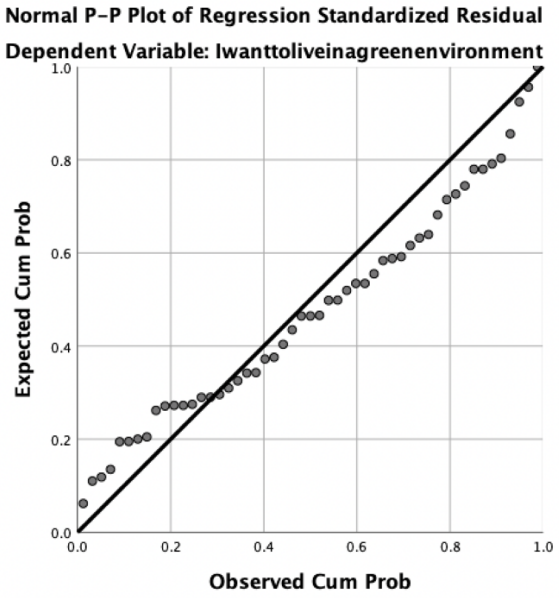
Correlations

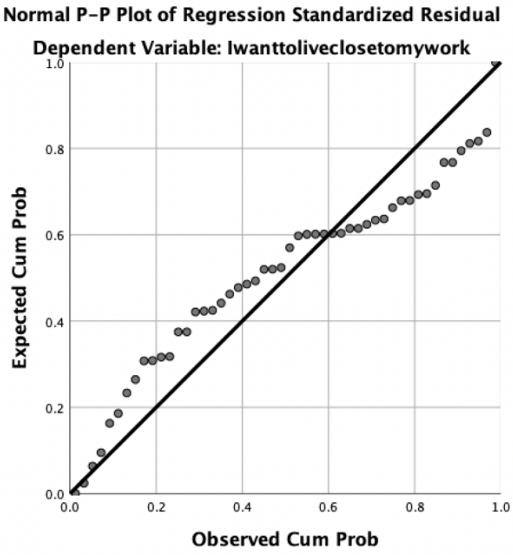
		Iappreciatehavingahouse withagarden	What is your age?	Wat is your gender?	What is your province of residence?	The location of my house is considered…	What is your household composition?	What is your current type of residence
Pearson Correlation	Iappreciatehavingahouse withagarden	1.000	-.280	-.253	.182	.117	-.064	-.072
	What is your age?	-.280	1.000	.176	-.656	-.529	.239	.047
	Wat is your gender?	-.253	.176	1.000	.074	-.111	-.023	-.032
	What is your province of residence?	.182	-.656	.074	1.000	.500	-.250	-.202
	The location of my house is considered…	.117	-.529	-.111	.500	1.000	-.151	-.126
	What is your household composition?	-.064	.239	-.023	-.250	-.151	1.000	.229
	What is your current type of residence	-.072	.047	-.032	-.202	-.126	.229	1.000
Sig. (1-tailed)	Iappreciatehavingahouse withagarden	.	.023	.037	.101	.207	.327	.308
	What is your age?	.023	.	.108	.000	.000	.046	.373
	Wat is your gender?	.037	.108	.	.303	.218	.435	.412
	What is your province of residence?	.101	.000	.303	.	.000	.039	.078
	The location of my house is considered…	.207	.000	.218	.000	.	.144	.190
	What is your household composition?	.327	.046	.435	.039	.144	.	.053
	What is your current type of residence	.308	.373	.412	.078	.190	.053	.
N	Iappreciatehavingahouse withagarden	51	51	51	51	51	51	51
	What is your age?	51	51	51	51	51	51	51
	Wat is your gender?	51	51	51	51	51	51	51
	What is your province of residence?	51	51	51	51	51	51	51
	The location of my house is considered…	51	51	51	51	51	51	51
	What is your household composition?	51	51	51	51	51	51	51
	What is your current type of residence	51	51	51	51	51	51	51

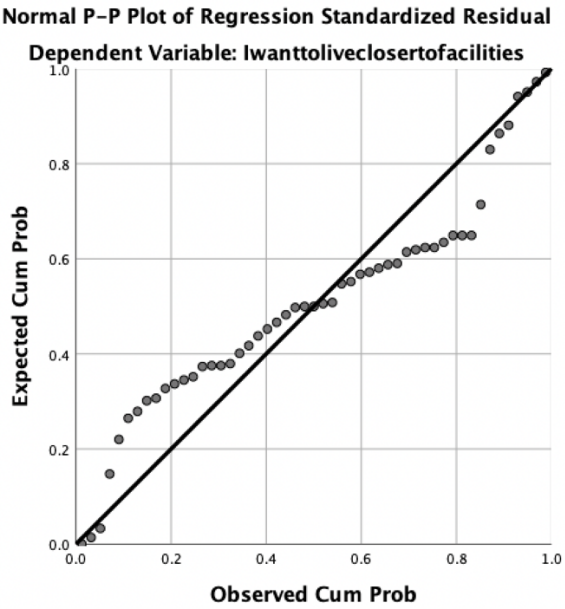
LINEARITY TESTS

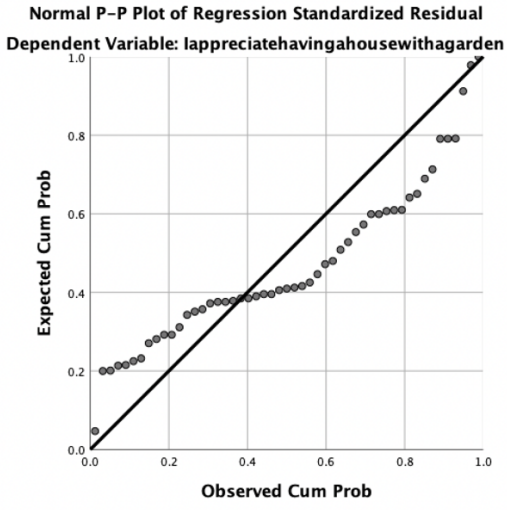




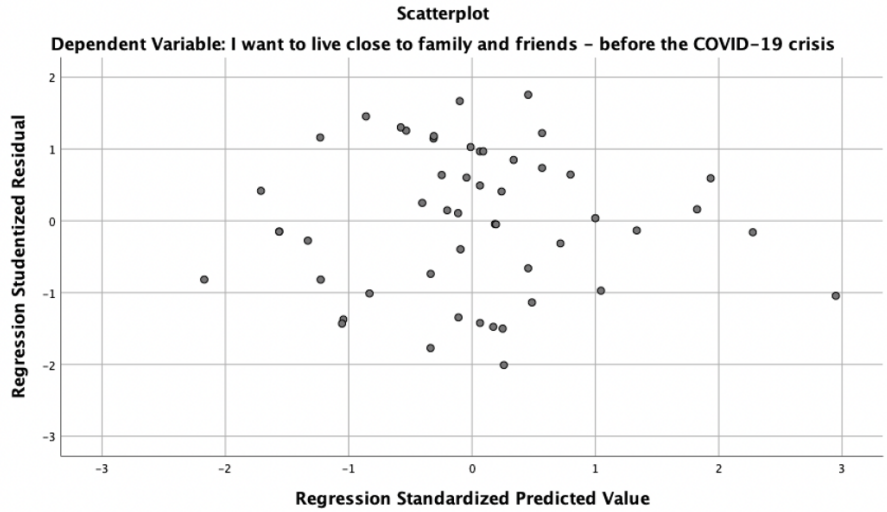


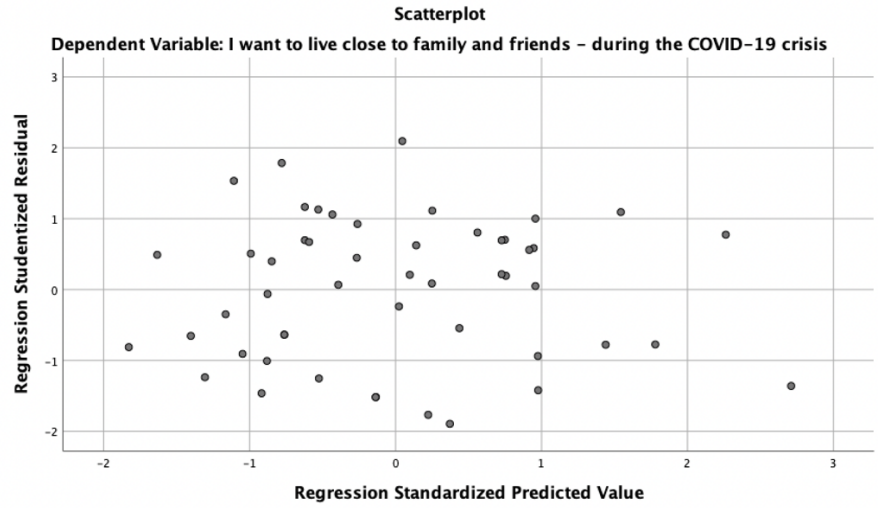


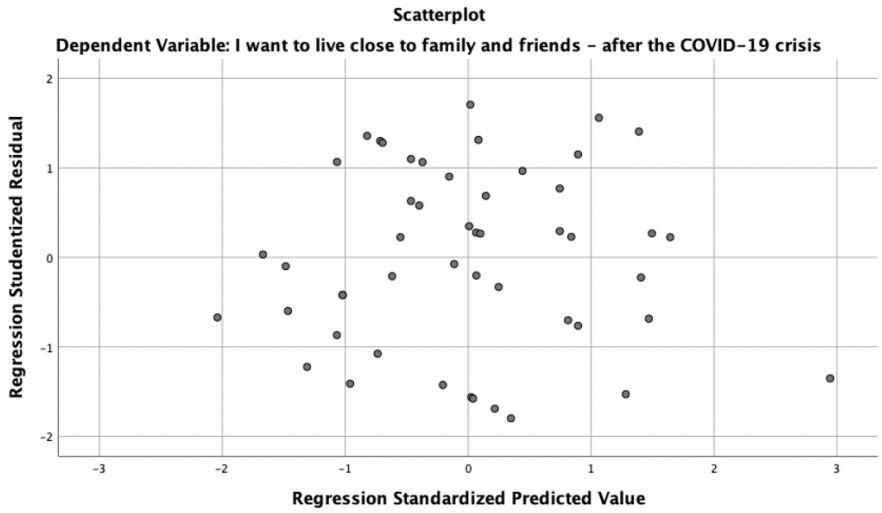


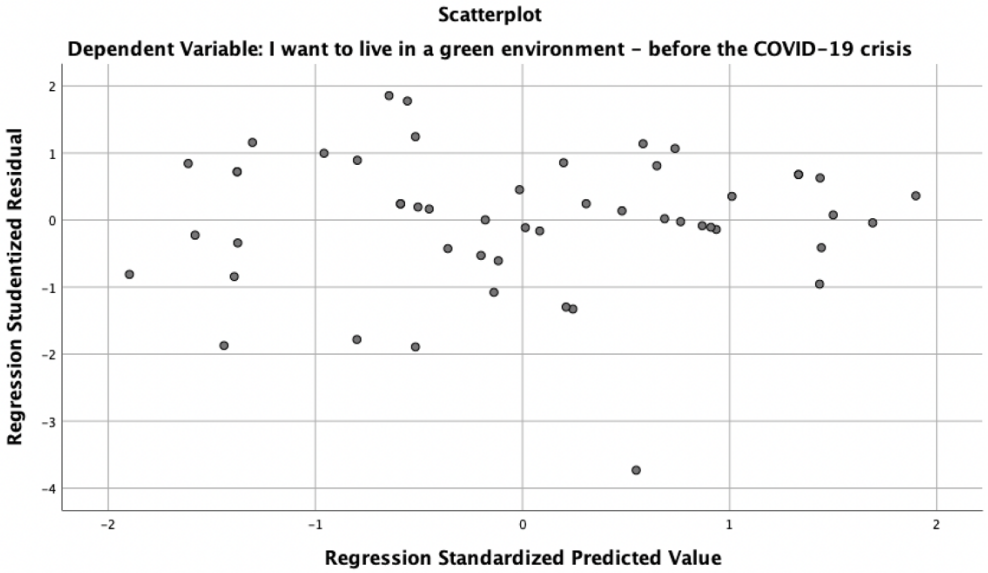


HETEROSCEDASTICITY TESTS





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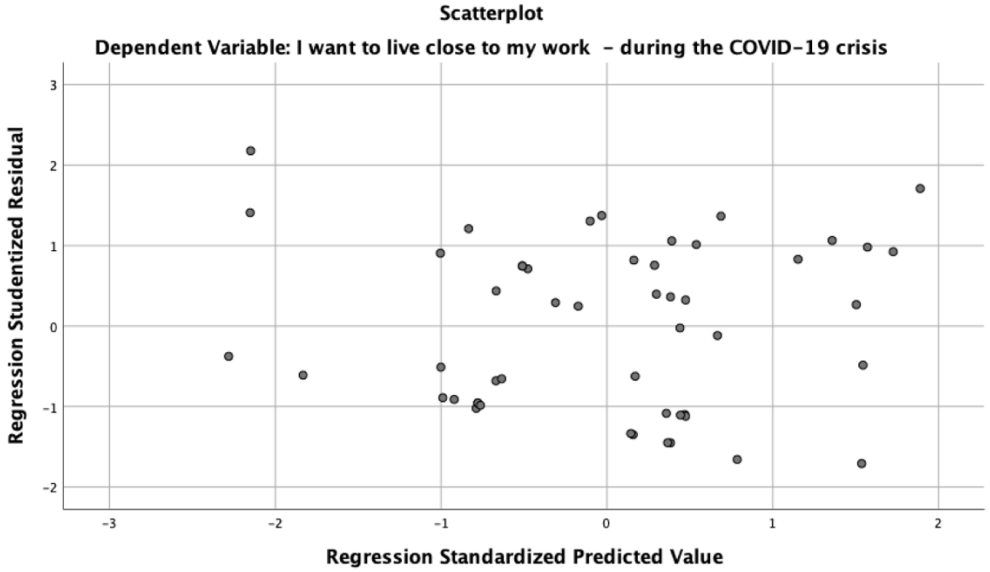
Regression Studentized Residual
Regression Standardized Predicted Value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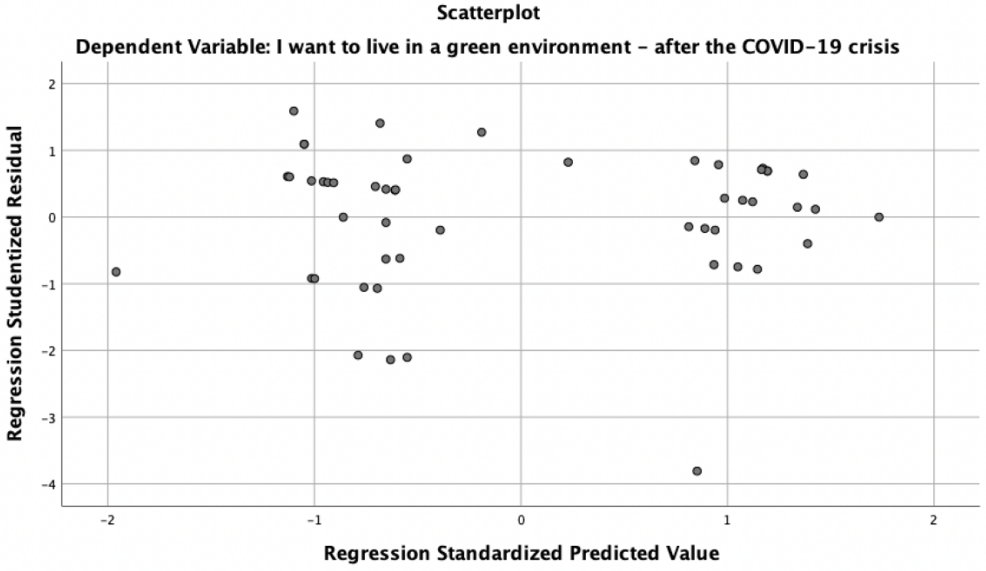
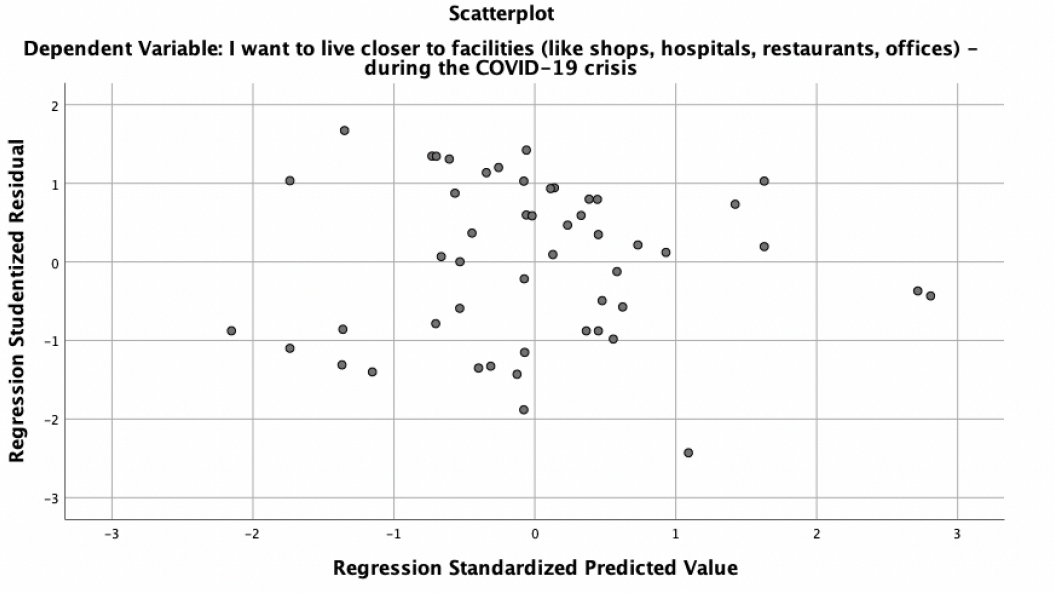
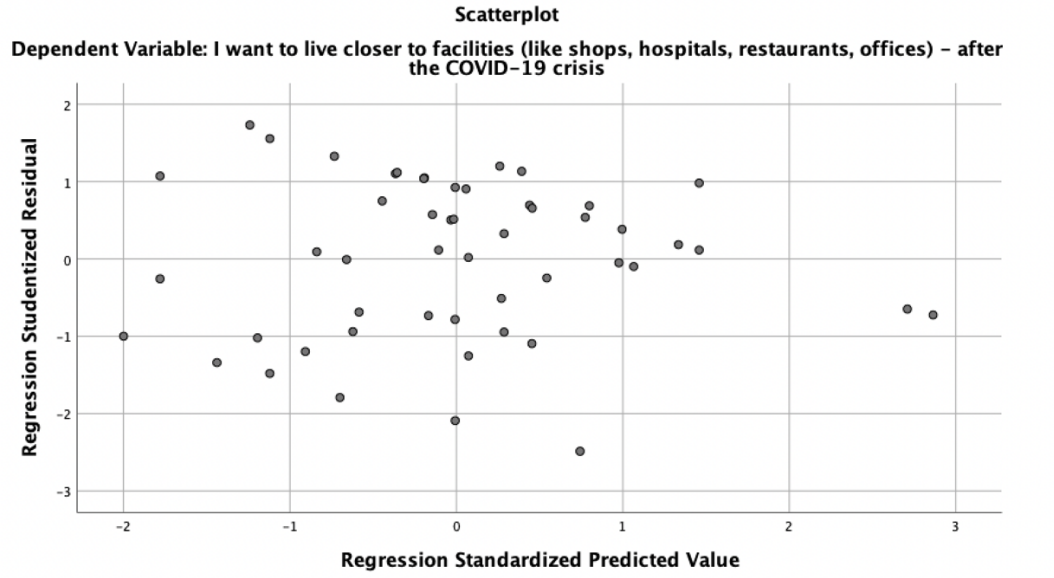
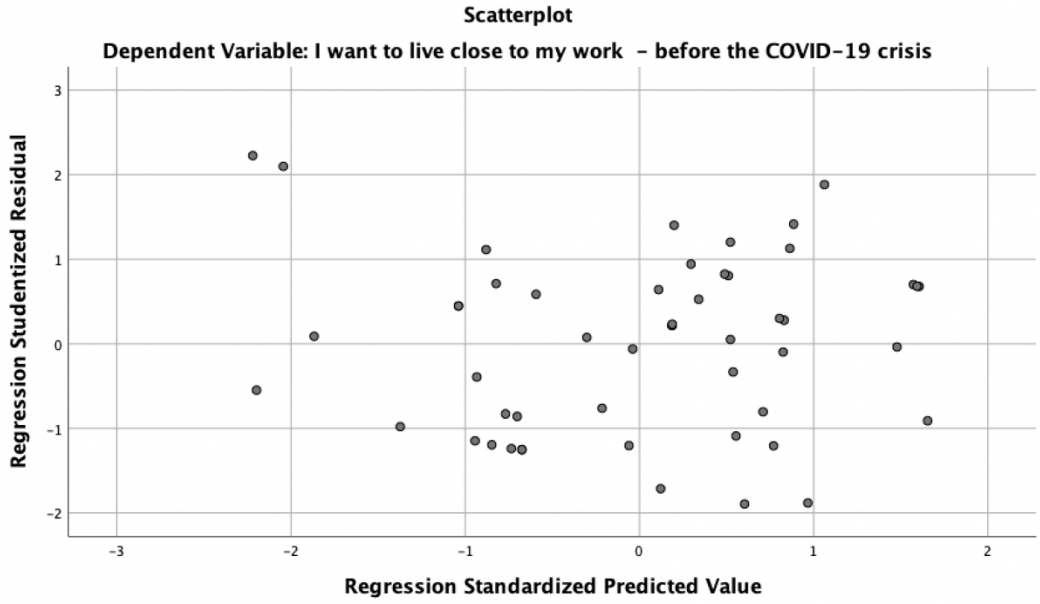
Dependent Variable: I want to live close to my work - during the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I want to live in a green environment - after the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value

Scatterplot
Dependent Variable: I want to live closer to facilities (like shops, hospitals, restaurants, offices) – before the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I want to live closer to facilities (like shops, hospitals, restaurants, offices) – during the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I want to live closer to facilities (like shops, hospitals, restaurants, offices) – after the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value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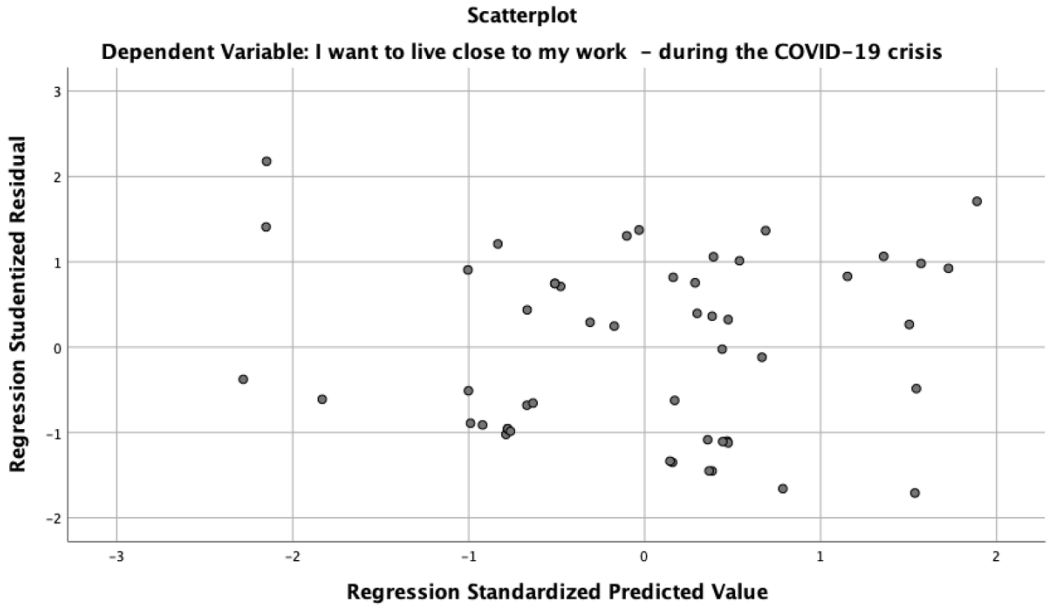
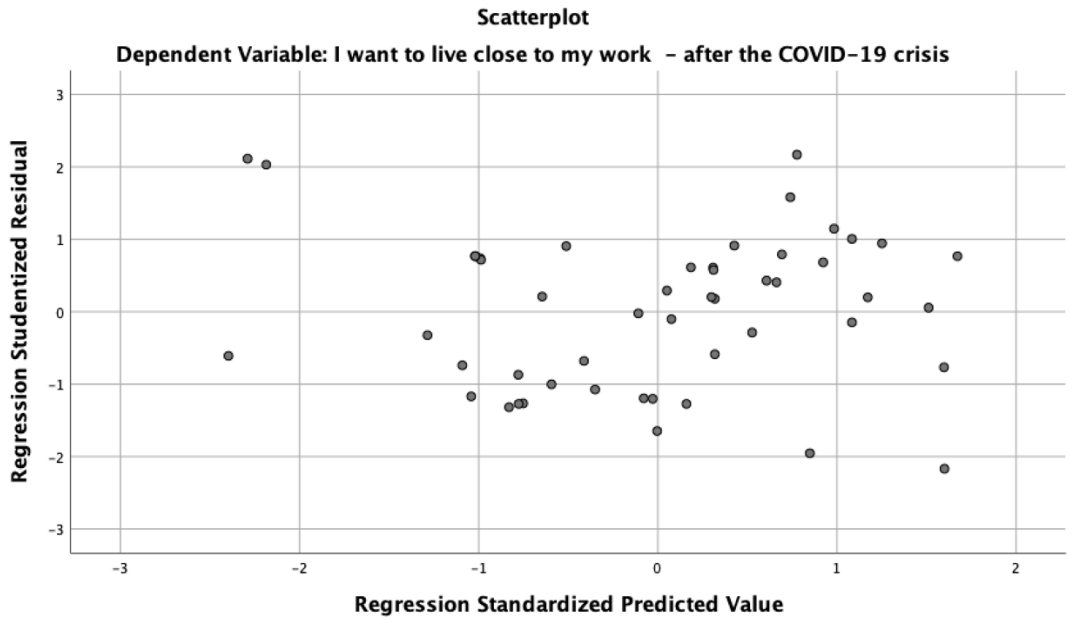
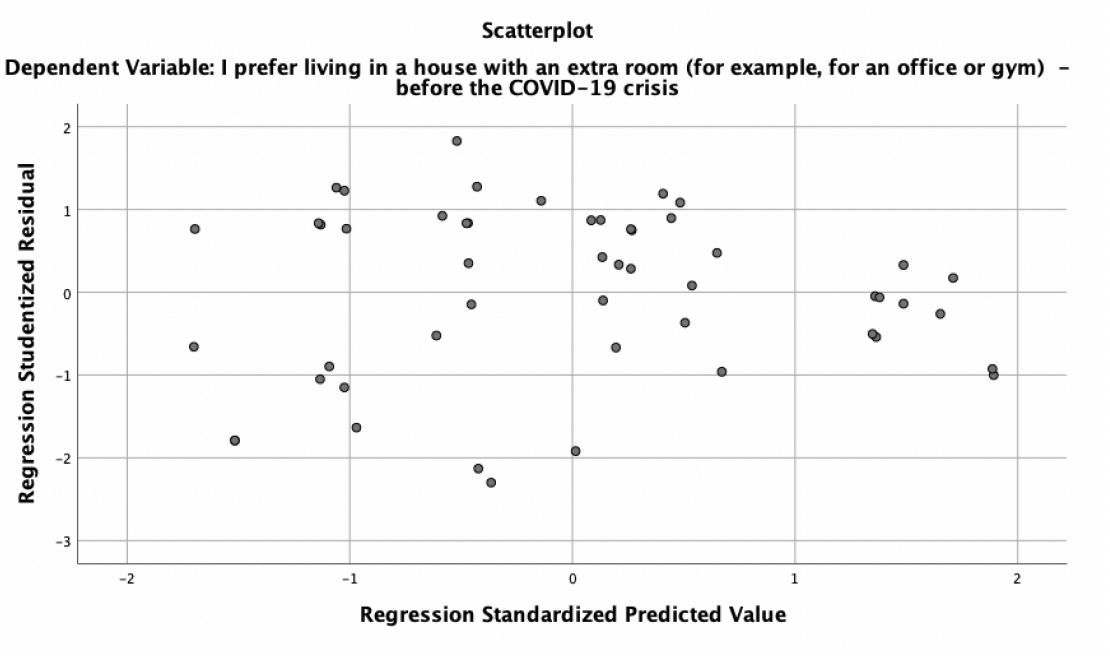
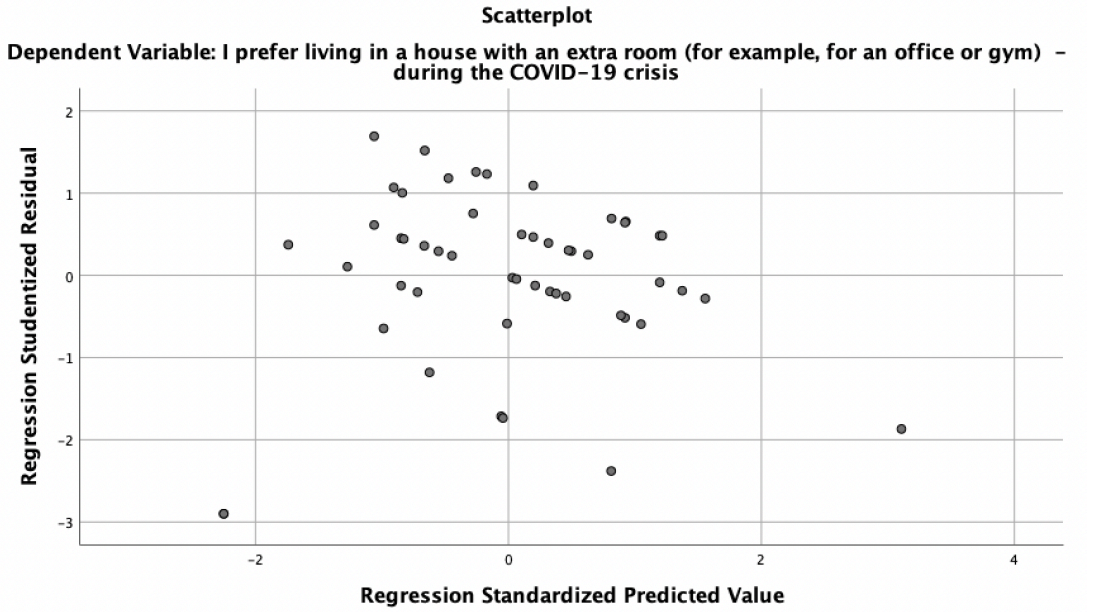
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I want to live close to my work - during the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I want to live close to my work - after the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I prefer living in a house with an extra room (for example, for an office or gym) - before the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value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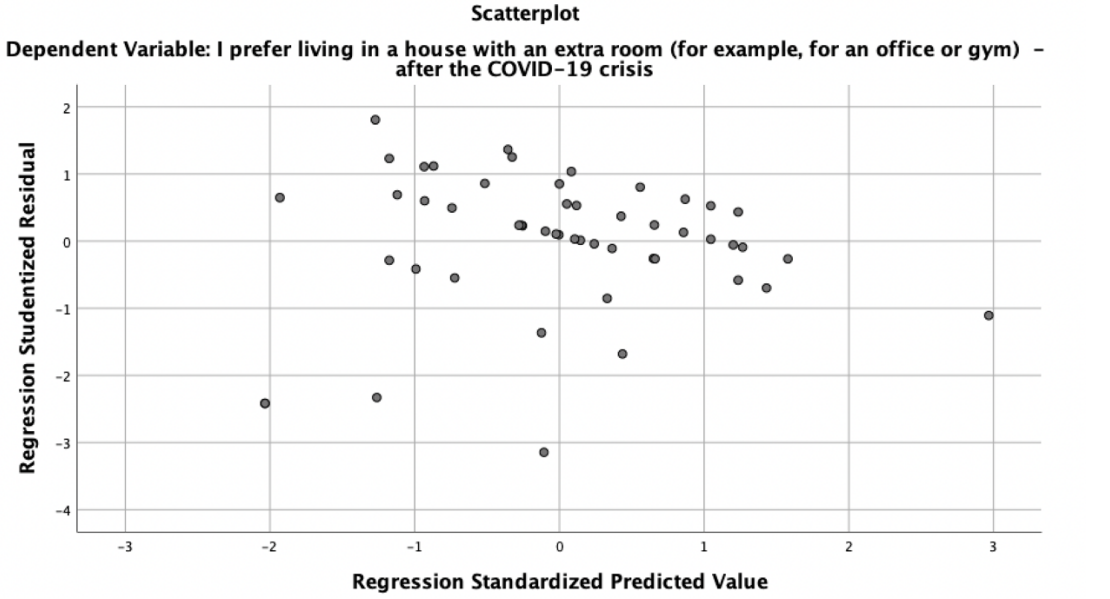
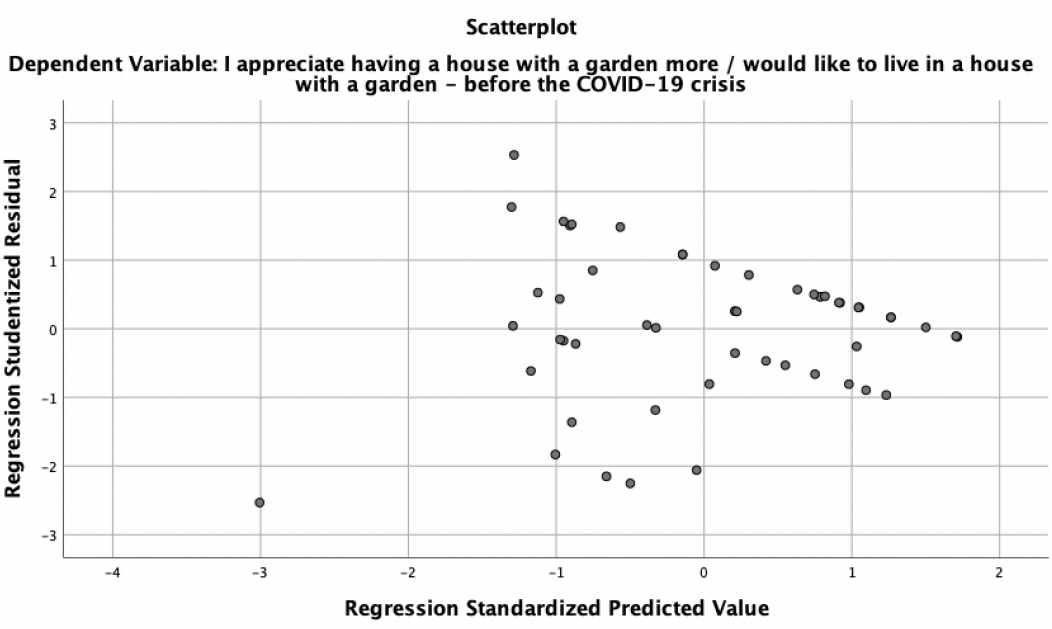
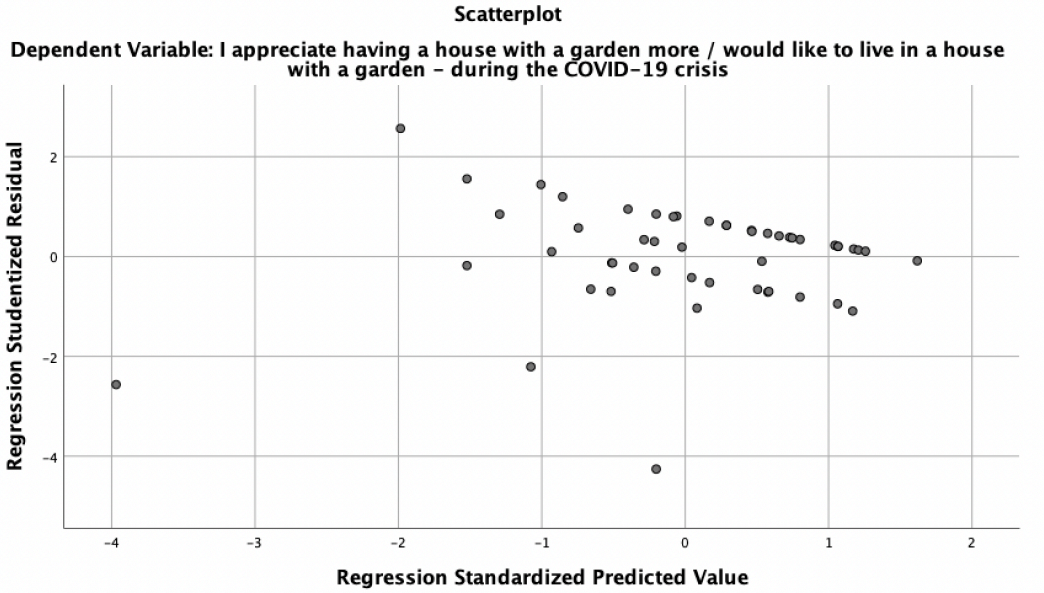
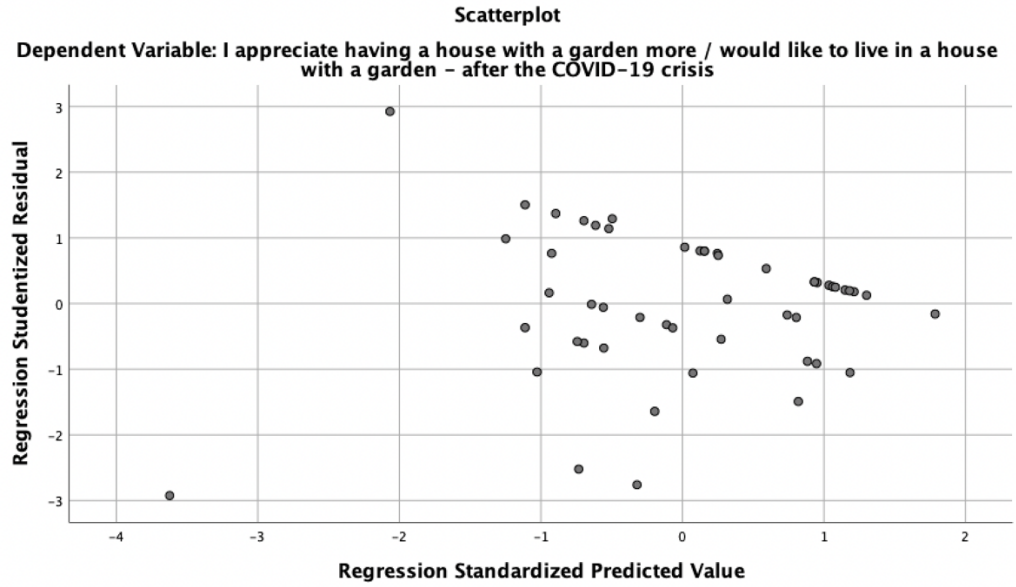

Scatterplot
Dependent Variable: I prefer living in a house with an extra room (for example, for an office or gym) - after the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I appreciate having a house with a garden more / would like to live in a house with a garden - before the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I appreciate having a house with a garden more / would like to live in a house with a garden - during the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value


Scatterplot
Dependent Variable: I appreciate having a house with a garden more / would like to live in a house with a garden - after the COVID-19 crisis
Regression Studentized Residual
Regression Standardized Predicted Value

APPENDIX 6: *OUTPUT MULTIVARIATE ANALYSIS*

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.488[a]	.238	.134	1.15101	.238	2.292	6	44	.052

a. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

b. Dependent Variable: Iwanttoliveclosetofamilyandfriends

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.217	6	3.036	2.292	.052[b]
	Residual	58.292	44	1.325		
	Total	76.510	50			

a. Dependent Variable: Iwanttoliveclosetofamilyandfriends

b. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1.474	1.164		1.267	.212			
	What is your age?	-.195	.116	-.325	-1.682	.100	-.454	-.246	-.221
	Wat is your gender?	-.220	.349	-.088	-.632	.531	-.119	-.095	-.083
	What is your province of residence?	.079	.068	.221	1.158	.253	.392	.172	.152
	The location of my house is considered...	-.215	.397	-.087	-.542	.590	.210	-.081	-.071
	What is your household composition?	-.129	.255	-.071	-.505	.616	-.177	-.076	-.066
	What is your current type of residence	.040	.116	.047	.339	.736	-.015	.051	.045

a. Dependent Variable: Iwanttoliveclosetofamilyandfriends

Figure 1: Output Multivariate Analysis: I want to live close to family and friends

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.498[a]	.248	.146	1.03515	.248	2.420	6	44	.042

a. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

b. Dependent Variable: Iwanttoliveinagreenenvironment

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.558	6	2.593	2.420	.042[b]
	Residual	47.148	44	1.072		
	Total	62.706	50			

a. Dependent Variable: Iwanttoliveinagreenenvironment

b. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	2.795	1.046		2.671	.011			
	What is your age?	-.141	.104	-.259	-1.347	.185	-.351	-.199	-.176
	Wat is your gender?	-.568	.313	-.250	-1.813	.077	-.268	-.264	-.237
	What is your province of residence?	.029	.061	.089	.471	.640	.265	.071	.062
	The location of my house is considered...	-.224	.357	-.100	-.627	.534	.155	-.094	-.082
	What is your household composition?	-.234	.229	-.142	-1.022	.312	-.249	-.152	-.134
	What is your current type of residence	-.149	.105	-.196	-1.424	.161	-.238	-.210	-.186

a. Dependent Variable: Iwanttoliveinagreenenvironment

Figure 2: Multivariate Analysis: I want to live in a green environment

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.350[a]	.123	.003	.76010	.123	1.027	6	44	.421

a. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

b. Dependent Variable: Iwanttolivecloserto facilities

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.559	6	.593	1.027	.421[b]
	Residual	25.421	44	.578		
	Total	28.980	50			

a. Dependent Variable: Iwanttolivecloserto facilities

b. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	.907	.768		1.181	.244			
	What is your age?	-.075	.077	-.203	-.979	.333	.132	-.146	-.138
	Wat is your gender?	.158	.230	.102	.687	.496	.074	.103	.097
	What is your province of residence?	-.061	.045	-.277	-1.356	.182	-.257	-.200	-.191
	The location of my house is considered...	-.371	.262	-.244	-1.416	.164	-.285	-.209	-.200
	What is your household composition?	.039	.168	.035	.234	.816	.078	.035	.033
	What is your current type of residence	-.028	.077	-.053	-.358	.722	.029	-.054	-.051

a. Dependent Variable: Iwanttolivecloserto facilities

Figure 3: Output Multivariate Analysis: I want to live closer to facilities

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.425[a]	.180	.066	1.12579	.180	1.578	6	43	.177

a. Predictors: (Constant), What is your current type of residence, Wat is your gender? , What is your age? , What is your household composition? , The location of my house is considered..., What is your province of residence?

b. Dependent Variable: Iwanttoliveclosetomywork

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.002	6	2.000	1.578	.177[b]
	Residual	54.498	43	1.267		
	Total	66.500	49			

a. Dependent Variable: Iwanttoliveclosetomywork

b. Predictors: (Constant), What is your current type of residence, Wat is your gender? , What is your age? , What is your household composition? , The location of my house is considered..., What is your province of residence?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations		
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1	(Constant)	-.449	1.138		-.394	.695			
	What is your age?	.033	.114	.057	.287	.776	-.210	.044	.040
	Wat is your gender?	.113	.344	.047	.327	.745	.068	.050	.045
	What is your province of residence?	.070	.067	.210	1.053	.298	.299	.159	.145
	The location of my house is considered...	.329	.390	.141	.843	.404	.242	.127	.116
	What is your household composition?	-.493	.249	-.290	-1.977	.054	-.330	-.289	-.273
	What is your current type of residence	.073	.114	.093	.638	.527	-.034	.097	.088

a. Dependent Variable: Iwanttoliveclosetomywork

Figure 4: Output Multivariate Analysis: I want to live close to my work

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.496[a]	.246	.144	1.81071	.246	2.397	6	44	.043

a. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

b. Dependent Variable: Ipreferlivinginahousewithanextraroom

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.150	6	7.858	2.397	.043[b]
	Residual	144.261	44	3.279		
	Total	191.412	50			

a. Dependent Variable: Ipreferlivinginahousewithanextraroom

b. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered..., What is your household composition? , What is your province of residence? , What is your age?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1.366	1.830		.746	.460			
	What is your age?	-.053	.183	-.056	-.292	.772	-.337	-.044	-.038
	Wat is your gender?	-.929	.548	-.234	-1.695	.097	-.217	-.248	-.222
	What is your province of residence?	.199	.107	.352	1.854	.071	.403	.269	.243
	The location of my house is considered...	.096	.625	.024	.153	.879	.268	.023	.020
	What is your household composition?	.135	.401	.047	.336	.739	-.088	.051	.044
	What is your current type of residence	-.204	.183	-.154	-1.116	.271	-.212	-.166	-.146

a. Dependent Variable: Ipreferlivinginahousewithanextraroom

Figure 5: Multivariate Analysis: I prefer living in a house with an extra room

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.362[a]	.131	.012	1.03439	.131	1.103	6	44	.376

a. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered…, What is your household composition? , What is your province of residence? , What is your age?

b. Dependent Variable: Iappreciatehavingahousewithagarden

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.079	6	1.180	1.103	.376[b]
	Residual	47.078	44	1.070		
	Total	54.157	50			

a. Dependent Variable: Iappreciatehavingahousewithagarden

b. Predictors: (Constant), What is your current type of residence, Wat is your gender? , The location of my house is considered…, What is your household composition? , What is your province of residence? , What is your age?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1.553	1.046		1.485	.145			
	What is your age?	-.115	.104	-.228	-1.105	.275	-.280	-.164	-.155
	Wat is your gender?	-.482	.313	-.228	-1.539	.131	-.253	-.226	-.216
	What is your province of residence?	.022	.061	.075	.366	.716	.182	.055	.051
	The location of my house is considered…	-.153	.357	-.074	-.430	.670	.117	-.065	-.060
	What is your household composition?	.010	.229	.007	.045	.964	-.064	.007	.006
	What is your current type of residence	-.046	.105	-.064	-.435	.665	-.072	-.065	-.061

a. Dependent Variable: Iappreciatehavingahousewithagarden

Figure 6: Multivariate Analysis: I appreciate having a house with a garden