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A crisis that triggered change: How the Corona crisis impacted (aspiring) homeowners' housing preferences.

A study into possible change of housing preferences of (aspiring) owner-occupiers in the Netherlands resulting from the Covid-19 crisis, as to give insight into the lasting impact on future demand for the housing stock.

By Marjolein Bons

Master Thesis

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"The **enormous impact** of what was happening to the world *impressed* and *intrigued* me and made me question what the **effect** of it would be on the **built environment**"

Preface

This report contains my thesis, which researched the possible change in housing preferences as a result of the Corona Crisis. It focused on the owner-occupier housing market and researched the stated preferences of people in the Netherlands differentiated by household type and urbanity of their current place of residence.

This thesis is the conclusion of my MSc Architecture, Urbanism and Building Sciences, track Management in the Built Environment, at the TU Delft. Graduating while living in a pandemic has offered me unique possibilities for research. The enormous impact of what was happening to the world impressed and intrigued me and made me question what the effect of it would be on the built environment. Housing has always been a topic of interest for me. Experiencing myself first-hand how much my requirements towards my home changed within days after the first lockdown initiated, made me question whether more people faced similar transitions. Moreover, it made me question what the effect were to be on the bigger scale; would this change the way we use and approach our built environment?

I am happy to have had the opportunity to perform this research for Dura Vermeer, which is a construction engineering company. Dura Vermeer, being one of the biggest in its sector in the Netherlands, is aware of its social responsibility. With the knowledge gained in this thesis, I have helped them in providing housing which suits the preferences of the Dutch owner-occupier, and in doing so, I have helped them in contributing positively to society.

Although experiencing the pandemic while writing this thesis offered unique research possibilities, it also generated an interesting though challenging situation, personally as well as academically. As such, I'd like to sincerely thank Sylvia Jansen for her enthusiasm and support in guiding me in this research and in this process. Furthermore, I'd like to thank Ellen Geurts for her expertise and guidance. Likewise, I wish to thank Peter Boelhouwer for his consult. Finally, I'd like to say a big thank you to Rink Drost and my colleagues from Dura Vermeer, for their assistance, encouragement and confidence. And last but certainly not least, I want to thank my boyfriend, my parents, my brother and my friends, who have been nothing but supportive and helpful in this process.

Enjoy reading my thesis!

Marjolein Bons

Rotterdam, June 28th, 2021

Disclaimer

The Covid-19 pandemic is, as the National Institutes of Health (2020) describe it, "an emerging, rapidly evolving situation". New information has been surfacing almost daily since its start. In like manner, new information has been surfacing almost daily while performing this research. And while new information surfaced, sometimes previous information became obsolete.

The information in this thesis has been gathered starting September 2020, up to June 2021. During this research, a weekly search for new information has been executed. As such, the newest insights were continuously included in the research. If necessary, obsolete information was replaced or removed. Nonetheless, it needs to be taken into account that over the course of the ten months during which this thesis has been written, an unprecedented situation evolved vastly and circumstances – and knowledge hereof- changed considerably.

As a consequence, the research problem and need for research taking place originated from the uncertain first half-year of the pandemic, wherein people abundantly speculated concerning what was going to happen in the (near) future. The theoretical background and knowledge on which the fieldwork part of the research was based date from September 2020 till February 2021. In March and April, during the most intense phase of the lockdown, the fieldwork part of the research was executed. Information which surfaced in the course of the last two-and-a-half months during which the results were analyzed and interpreted, has been taken into account in the discussion and conclusion.

For this reason, this thesis and its findings should be read while keeping in mind the available knowledge and the perspective of the time during which it was written. In the same way that research of times past should be read while keeping in mind the available knowledge and the Zeitgeist during which that was written.

Abstract

The Corona crisis highly affected socio-economic circumstances, and this was expected to have changed housing preferences. Understanding what needs to be built in quality in addition to quantity is key to a sustainable housing market. Hence, this thesis researched whether and how housing preferences of (aspiring) owner occupiers in the Dutch housing market have changed due to the Corona crisis. The change in housing preferences was researched through a survey inquiring expressed stated preferences for dwelling attributes. Quantitative and qualitative data of 1458 useful respondents combined showed that due to Corona, for 17.8% their housing preferences changed for one or more housing attributes, and thus their preferred dwelling had changed. Per attribute, an average of 3.4% of the respondents changed their preference. Most changes relate to working from home, which severed the link between the home and the workplace, enabling as well as causing people to move further away, and which necessitates space in and outside the dwelling. Accordingly, the crisis has had the biggest effect on the preferred number of rooms in a dwelling. The number of rooms is imperative, not the size. The apartment decreased in popularity, and the preference for dwelling types with a garden increased. The functionality which respondents seek of their outdoor space are enabling social possibilities, providing entertainment and supporting mental health. The living environment for which people are willing to move further away should provide greenery, nature nearby, space, tranquility and privacy. It appears that due to the crisis the willingness to pay has increased as housing has increased in importance. The Corona crisis has had more effect on the housing preferences of multi person households with children than on other households. The crisis has had an excessive effect on households living in highly urban places. Four out of five respondents expect their changed preferences to be permanent, in particular regarding the number of rooms, the dwelling size and the preferred outdoor space. The preferred price range is expected to change again as the micro and macro level financial circumstances change. It needs to be kept in mind that this regards expectancy of respondents and thus regard uncertainties. The results need to be interpreted with caution as the data suggests a discrepancy in the level of ideality or reality which respondents have conjugated in their expressed preferences. Lastly, the effect of Corona on housing preferences might be bigger than currently observed, since identifying Corona as the cause for changing preferences seemed to be difficult when the preferences concerned diffuse attributes. Additionally, the current extremely high macro level constraints constrain respondents to the point where their new preferences might not be able to manifest.

Key words – Stated Housing preferences, Corona Crisis, Owner-occupied Housing market, Socio-economic circumstances, Housing attributes.

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1. Introduction

As of March 2020, the Corona crisis started in the Netherlands (Rijksoverheid, 2020e). Besides being a health crisis, the crisis is also a socioeconomic crisis since socioeconomic circumstances are highly affected by the Covid-19 pandemic and the drastic measures necessary to safeguard public health. Socioeconomic circumstances encompass a variety of social and economic factors such as "income, education, employment, community safety, and social supports" (University of Wisconsin Pupolation Health Institute, 2021). The measures such as social distancing, working from home and the lockdown all have far-reaching consequences on the social and economic factors, and on day-to-day life. Social consequences encompass mental health problems and an increase in work-related stress. Economic consequences include general economic downturn and shrinkage in employment. These consequences have its repercussions on the housing market. The socioeconomic consequences of the Corona crisis and the concurring effects on the housing market are further elucidated in chapter two.

1.1 Suspecting change

As the above indicates, **because of the Corona pandemic socioeconomic circumstances, i.e., the way people live and work and what their financial capabilities are, have all changed**. Doling and Arundel (2020, p. 1) state this "might change requirements people have concerning their home". They refer to the "dual use of the building to meet the needs of residents as somewhere both to live and to work". Additionally, as Paling (2020) explains, when there is a societal change in the way people live and use their home, "This affects many more things than just homes. It also affects mobility, the living environment and [amenities] in the district". In line with this, Doling and Arundel (2020, p. 12) state that working from home can "sever the geographical link between house and workplace location" so that travel distance, time and cost no longer determine where to live or look for work. Hence, not only requirements people have concerning their home might have changed, but also the requirements people have concerning the living environment of their home might have been altered. In other words, how and where people want to live might have changed. **The question thus arises whether the current socio-economic circumstances have led to different housing preferences. As described, how and where people want to live might have changed. But whether this is true and what this change encompasses is, however, unknown**.

The various news articles writing about expected change in housing preferences consequential of the Corona crisis, as presented hereafter, affirm that it is unknown what the change encompasses. Because **while change is suspected, opinions regarding what the change encompasses differ widely.** Hegger (2020) states that "In recent months, home seekers want to live bigger and greener than before the corona outbreak". She further elaborates that "the migration from the Randstad is also continuing and even seems to be getting stronger." Nieuwsuur (2020) likewise states that "due to the corona crisis, more urbanites want to move to the countryside than before", and Funda.nl specifies that twelve percent of respondents in a poll questioning the wish for moving due to corona considers switching the city life for village-living (Nieuwsuur, 2020). The overall finding here is that urbanities are currently less satisfied with their dwelling than residents outside of the urban areas (Hegger, 2020). Leeuwen and Bourdeau-Lepage (2020, p. 1) conclude in a study called 'Spatial differences and the impact of the Dutch lockdown on well-being and lifestyles' that "space, and especially urbanity, matters". They affirm that wellbeing has declined more in high density urban areas than in areas of low urbanity. They further specify that "People living in an apartment without a balcony or terrace are least happy during the crisis" (p. 3).

Contradictory, Hueck (2020) states in her article "Corona is not yet driving homeowners out of the city" that while there is a growing wish for more space, the preference is still owning that space within the urban area. Hesselink and van der Sluys (2020) likewise say that "The COVID-19 outbreak [...] will further

strengthen the preference for lively central locations with high levels of urban amenities". de Groot (2020) voices that "A massive exodus to the countryside is unlikely, let alone to the fringes of the Netherlands."

As can be seen, **much contradiction exists on the suspected change in housing preferences resulting from the Corona crisis.** The focus, however, appears to be on the location of the dwelling. Whether the location is subordinate to the supposed wish for more dwelling space, or whether the location is in itself imperative remains unknown. **Further research is thus needed to ascertain what the change in housing preferences will actually encompass.** This is the focus of the current study.

1.2 Research Questions

Having executed the research for this thesis during the most severe lockdown since the start of the pandemic created a unique research opportunity. If preferences did change, the effect was best discernible during this time, since change in socioeconomic circumstances because of the crisis was highest at this time. The research focused on the owner-occupied housing market because this is where the crisis's effect is discernible best. This is the case because this part of the housing market, which encompasses 57% of dwellings in the Netherlands in 2020, has the highest freedom of choice and thus preferences matter. Of the 43% of houses in the rental market, around 69% is social, in which people do not have to ability to act freely, and housing preferences do not play as vital a role (CBS, 2020c). Therefore, this thesis researched whether and how housing preferences of (aspiring) owner-occupiers in the Dutch housing market have changed due to the Corona crisis. The main research question to which this thesis provides an answer is thus:

> **'What is the effect of the Corona crisis on the housing preferences of (aspiring) owner-occupiers in the Dutch housing market?'**

For answering this question, five sub questions have been formulated which are the following:

RQ 1. What were the trends in housing preferences of (aspiring) owner-occupiers in the Dutch housing market before the Corona crisis started?

RQ 2. What are the housing preferences of (aspiring) owner occupiers in the Dutch housing market during the Corona crisis?

RQ 3. In which way have housing preferences of (aspiring) owner occupiers changed due to the Corona crisis, and why?

RQ 4. In which way does identified change in preferences differ between various groups of (aspiring) owner-occupiers?

RQ 5. What are the possible long-term consequences of the Corona crisis on housing preferences of (aspiring) owner-occupiers?

In order to research the effects of the Corona crisis on housing preferences, first ongoing trends in preferences before the Corona crisis started needed to be determined to discern the effect of Corona on the changes that are now surfacing. Because as Galloway (2020) states; "the pandemic's most enduring impact will be as an accelerant", meaning this crisis has accelerated and intensified trends already in progress pre-Corona. In other words, what changes in housing preferences of (aspiring) owner occupiers in the Dutch housing market were already progressing or emerging? Research question one provides an answer to this by means of market research.

Next, the housing preferences *during* the Corona crisis were researched. For this, question two researched the housing preferences of (aspiring) owner occupiers in the Dutch housing market in the present-time by means of a survey.

Furthermore, for research question three, the survey inquired whether change in housing preferences has taken place since the start of the Corona crisis or because of Corona, and if so, what this change encompassed. A comparison was then made between the results of research question three and one so that a distinction could be made between trends which newly originated from the Corona crisis, and trends which already existed before the crisis.

If change in housing preferences took place, question four researched where in society it is located. For this, the various groups of owner-occupiers were examined for change individually after which analysis ascertained whether the changes were indeed statistically significant. The groups of owner-occupiers were differentiated on their household type and the urbanity level of their current place of residence. The substantiation of these target groups is explained in paragraph 6.1.2.

Finally, research question five explores the possible long-term consequences of the crisis on housing preferences, by exploring whether the identified changes are temporary or structural of nature.

Research question one till five together provide an answer to the main question. They uncover what changes in housing preferences were already progressing or emerging (retrospect). Succeeding, they uncover *whether* change in housing preferences due to the Corona crisis has taken place, *what* this change encompasses and *how much* change occurred (present-time). Furthermore, the questions disclose *where* in society the possible change transpires, and in how far this change is expected to be either temporary or permanent (prospect). Collectively, these answers constitute the effects of the Corona crisis on housing preferences of (aspiring) owner-occupiers in the Dutch housing market, both in the immediate and long term.

1.3 Housing preference theory

This thesis thus researches if and how housing preferences have changed due to the Corona crisis. In researching this, the difference between housing preferences and actual moving behaviour is essential. Since the Corona crisis is a recent event, and actual moving decisions in the housing market are a slow-moving process, too little observational data of actual housing choices, i.e., revealed preferences, is available just yet for research. This thesis thus researches *expressed* housing preferences, i.e., the preferences which people voice are theirs. To prevent the research being based on unrealistic expectations and ideal dreamhouses, which would render the conclusions useless in practice, this thesis focusses on *stated preferences*. A stated preference is where people their unconstrained ideal preferences are constraint by factors such as their financial capabilities and availability of the preferred dwelling in the housing market. These are thus realistic aspirational preferences of people who have oriented themselves on the housing market. Hence, by researching the *expressed stated preferences*, if and how housing preferences have changed due to the Corona crisis is explored.

In order to research the expressed stated preference, the composition of such a preference needs to be understood. Theoretically, a housing preference is a sum of preferences for certain dwelling features. These features, i.e., attributes, are beneficial in some way to the occupier of the dwelling, i.e., they generate utility. Housing preference theory defines a housing preference thus as a *sum of preferences for certain utility-generating attributes which together make up the 'ideal or realistic aspirational home features'*.

A distinction is made between functional and abstract preferences, attributes and utilities (Olson and Reynolds, 1983, as cited by Zinas & Jusan, 2012). Vriens and Hofstede (2000, p. 4) define concrete attributes as "relatively directly observable physical characteristics [...], e.g. price, colour, weight etc.", which provide "practical benefits and performance outputs" (Zinas & Jusan, 2012, p. 186). Abstract attributes are defined as "meanings perceived by the housing user" (Mahmud, 2007, as cited by Zinas & Jusan, 2012, p. 285), and relate to "feelings or social considerations" (Zinas & Jusan, 2012, p. 186). More simply said, a dwelling encompasses objective and subjective characteristics, for which people have a functional (objective) or abstract (subjective) preference. Chapter three further explicates the theoretical formation of a housing preference.

This thesis will focus on the *expressed functional stated preferences*, encompassing concrete attributes and functional utilities which together form the *realistic aspirational functional home features*. This limitation is chosen because the abstract aspect is highly subjective and concerns feelings and symbolics. Due to time constraints, the focus of this thesis will thus be solely on the functional stated preference.

1.4 Demarcation

For executing this research, certain boundaries have been set. This paragraph delineates the demarcation. Additionally, terminology used is summated. The demarcation is depicted in image 1.1.

- This thesis researches the expressed stated preferences of (aspiring) owner occupiers in the Dutch housing market.
- In researching the stated preferences, attributes are investigated. The focus is on concrete attributes and functional consequences.
- Orzechowski, 2004; Timmermans et al., 1994, as stated by Zinas and Jusan (2012, p. 289) explain that when researching stated housing preferences with the use of attributes, the following assumptions are made:
- It is assumed that dwellings can be defined by means of a set of attributes.
- It is assumed that each of these attributes provides utility in some way.
- It is assumed that people "combine their part-worth utility according to some rule to arrive at an overall preference or choice".
- Literature and market research show there is a difference in being affected by the corona crisis between the various owner-occupiers. Of importance are the various household compositions and the urbanity level of their current place of residence. As such this research differentiates between these groups and researches which changes in preferences occur where. The defining of the respondent group and size is further elaborated in chapter six.
- The research will focus on people with an inclination to move. This ensures the studied preferences are *stated* preferences and not *ideal* preferences.
- As mentioned, the research focuses on the owner-occupied housing market because this is where the effect of the crisis is discernable best. In this part of the housing market, which encompasses 57% of dwellings in the Netherlands in 2020, freedom of choice is highest. Of the 43% of houses in the rental market, around 69% is social, in which people do not have to ability to act freely. Moreover, the 31% of dwellings in the private rental sector, in which people do have freedom of choice, is clustered in the big cities. Dwellings in this sector would thus not present a well distributed sample for urbanity. In contrast, the owner-occupied housing market is well distributed in terms of urbanity. (CBS, 2020c)

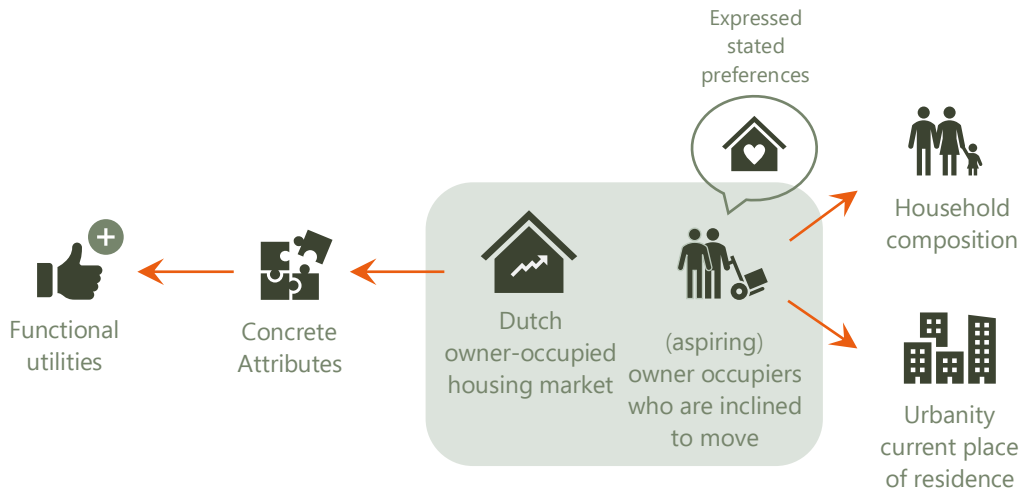


Image 1.1: The demarcation of the research.

1.4.1 Terminology

When talking about certain terms, the following definitions are adopted in this thesis.

Stated preference	A more or less realistic aspirational preference for which people have oriented themselves on the housing market i.e., intended choices or hypothetical choices; Expressed choices, not observed. (Coolen & Hoekstra, 2001; Jansen, Coolen, & Goetgeluk, 2011)
Owner occupier	"Someone who has bought the house [...] that they live in."(Cambridge Dictionary, 2021d). In this thesis, owner occupier refers to people participating in or willing/planning to participate in the owner-occupied housing market. This encompasses current homeowners as well as starters.
Owner occupied housing	"Dwellings owned by the households that live in them." (OECD (Organization for Economic Co-operation and Development), 2021)
Dutch owner-occupied housing market	"The type, cost and number of [owner occupied dwellings] available in [the Netherlands]; the activity of buying and selling [owner occupied dwellings]" (Cambridge Dictionary, 2021c).
Attributes	The 'intrinsic and physical features, properties or characteristics' of a dwelling. (Zinas & Jusan, 2012, p. 285)
Household composition	The composition of household members, i.e., "persons who occupy a living space and provide themselves there privately, that is, non-commercially, for daily necessities" based on number and age. There is differentiated between single-person households, households with-, and households without children. (CBS, 2021b; StatLine publicaties, 2020b)
Urbanity	An urbanity class (level) based on environmental address density (the average number of addresses per km^2 within a radius of one km) which is assigned to a dwelling. The urbanity class is determined at neighborhood level and is based on data from January 01, 2020 (StatLine publicaties, 2020b)
Dwelling / House	A building [which provides a place for people to live] (Cambridge Dictionary, 2021b)
Housing	The process of providing places for people to live. (Cambridge Dictionary, 2021c)
Home	The house [...] where you live, especially with your family. (Cambridge Dictionary, 2021a) All homes are dwellings. But not all dwellings are a home. People want *their home* to provide certain utility through certain attributes and look for a *dwelling* that provides the required attributes and utility. So they will make that dwelling their home.

1.5 The purpose of the research

1.5.1 Societal relevance

The purpose of the research is to reduce uncertainty concerning the housing preferences of owner occupiers so that housing providers can contribute the correct additions to the housing stock on the correct places. This is of importance because people should be able to live in the housing of their preference as this contributes to housing satisfaction which in turn contributes to the overall wellbeing of people (Jansen, 2010). Additionally, "[the enjoyment of housing which is] varied, affordable and financially responsible is the foundation of a sustainable and healthy society" (Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A., 2021, p. 1).

Additionally, understanding the *qualitative* demand is especially now highly relevant since there is a gap between demand and supply in numbers, i.e., *quantitative* demand is high. Understanding what needs to be built in quality instead of just in quantity is key to a (more) sustainable housing market. The current housing shortage in the Netherlands is estimated at 331 thousand homes, i.e. 4,2% of the current housing stock (ABF Research, 2020). From 2020 till 2023, at least 57 thousand homes will be built yearly and up to 83 thousand homes are needed in order to solve the shortage (Doodeman, 2020). Since a lot of homes will thus be built in the next three years, ensuring the newly added quantity is conform the required quality will help in creating the mentioned sustainable housing market. Understanding what needs to be built in quality is thus imperative. Right now, this is not being done yet, seeing as Jansen (2017, p. 28) states there is currently a gap between the "available objective housing quality and the desired subjective housing quality". The research of this thesis will help solve this problem.

1.5.2 Scientific relevance

Reducing uncertainty concerning changing housing preferences in the occurrence of changed socio-economic circumstances is of importance for the prognosis is events like the current Covid-19 pandemic are to happen more often in the future. As Daszak states (As quoted by Bosch van Rosenthal, 2020) "This is the era of the pandemic". Confirming this is the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2020) which states that "future pandemics will emerge more often, spread more rapidly, do more damage to the world economy and kill more people than COVID-19", and that "it is estimated that another 1.7 million currently 'undiscovered' viruses exist in mammals and birds – of which up to 827,000 could have the ability to infect people". As such, this research contributes to uncovering how major changing circumstances due to pandemics impact the housing preferences of owner-occupiers in the real estate market, so to reduce uncertainty and enable well-founded responses in subsequent events.

1.5.3 Corporate relevance

From a business perspective it is of commercial interest to sell the suitable houses to the market demand. By researching what the preferences of aspiring homeowners are, the company can provide homes which meet the wishes of the customer and gain competitive advantage over the rival companies. As Paling (2020) states, more differentiated thinking is required from housing providers in response to the changes in requirements people have concerning amenities. Executing this research will aid in this differentiated thinking.

1.6 Dissemination and audiences

This thesis has been executed in corroboration with Dura Vermeer. The knowledge gained with this research is intended for all parties working in the field of providing housing, but hence is intended in particular for Dura Vermeer. As mentioned, it is of importance that providers of housing are aware of actual housing preferences so that excellent matches between preferences and provision can be established.

1.7 Structure of the report

The report consists of five parts which encompass in this order the *theoretical background*, the *research design and execution*, the *research results*, the *final results, discussion and conclusion* finally, the *reflection*.

Part I, which encompasses chapter two till four, starts with research on the Corona crisis and the resulting socio-economic effects. Next, chapter three explains housing preference theory. In chapter four, the translation of the housing preference theory into practice is elucidated, and the knowledge is synthesized with what is known about the Corona crisis and its effects. This chapter, and with-it part I of this thesis, finishes with a hypothesis of what change the Corona crisis has exerted on housing preferences. This is concurrently the basis for the fieldwork conducted.

Subsequently, part II elucidates the research design and execution of this fieldwork: Chapter five explains the research design and the methods used to gather data and answer the research question, after which the execution of the data collection and the analysis hereof is then described in chapter six.

Following this, part III of this thesis presents the research results. First, the general characteristics of the received respondent group are described in chapter seven in order to provide insight into this gathered respondent group. Next, each subsequent chapter provides the answer to a sub question. As such, chapter eight discusses the housing preference trends which were already ongoing before the start of the crisis. Chapter nine presents the current housing preferences of the respondent group, and chapter ten analyzes whether these preferences have changed since the start or due to the crisis, discusses what the change encompasses, and explores reasons why. Continuing from this, chapter eleven discloses whether change varied between subgroups. Lastly, whether these discovered changes are expected to be temporary or permanent is explored in chapter twelve.

Part IV of the thesis starts with an enumeration of all results as discovered in part III in chapter thirteen. This provides an overview of all findings and functions as the starting point for discussing these results in chapter fourteen. Chapter fourteen furthermore discusses the limitations of the thesis and explores opportunities for further research. Finally, a conclusion is given in chapter fifteen. Part IV finishes with recommendations directed to the parties working in the field of housing, with in particular Dura Vermeer.

The thesis concludes with a personal reflection in part V.

Part I
Theoretical Background

The following chapters elucidate the Corona crisis and its repercussions on the housing market and describe the theory behind housing preferences and choices.

2. A crisis that triggered change

In response to the pandemic, the Dutch government has taken various measures to safeguard public health, which instigated the Corona crisis. The first part of this chapter describes the measures taken and explains the resulting crisis. The second part illustrates the effects of the crisis on social and economic circumstances. The knowledge in this chapter represents the starting point from where change is expected to have occurred.

2.1 The Corona crisis

The Corona crisis is a product from the SARS-CoV-2 outbreak causing the disease Covid-19, i.e., *Corona,* which resulted in a pandemic. Corona is a respiratory disease which symptoms, in mild cases, can resemble that of a cold. In more serious cases, severe pneumonia can develop, possibly followed by death. (Rijksinstituut voor Volksgezondheid en Milieu, 2020b, 2020c). Up until now, the Covid-19 outbreak in the Netherlands has persisted for sixteen months in which it has known three waves. The first wave ran from March till June 2020, the second wave started in July 2020 and lasted until January 2021, and the third wave commenced in February 2021 and is continuing up until now (June 05, 2021) (Rijksinstituut voor Volksgezondheid en Milieu, 2020a, 2021a). However, prognoses indicate that in the Netherlands the worst has passed and the number of infections declines and will continue doing so (van Dissel, 2021).

2.1.1 Measures to safeguard public health

To safeguard public health, the Dutch government took various measures which were adapted to the virus's development over time, and which were all regarding the goal of limiting human contact and interaction. These measures concerned amongst others the implementation of (partial) lockdowns on business, regional and national level so that people would be coerced to stay at home (Netherlands Chamber of Commerce (KVK), Government.nl, Netherlands Enterprise Agency (RVO), & Tax and Customs Administration (Belastingdienst), 2020). The severity of the lockdowns differed throughout the crisis.

The first lockdown was implemented during the first wave and was referred to as an *'intelligent lockdown'* (NOS, 2020). The most significant measures were social distancing (1.5 meters), working from home, and closing facilities such as schools, childcare, restaurants, cafes, and sports amenities (Rijksoverheid, 2020a). These measures were national. Earlier already, major events had been prohibited in the region of Noord Brabant (Rijksoverheid, 2020e). Businesses were allowed to stay open but risked fines or closure when failing to adhere to measures in place. After improvement was visible, the government lifted the measures in phases (Rijksoverheid, 2020f, 2020g).

On October 13, 2020, the government presented a route map with phases of implementing more severe measures as the second wave had begun. This led to the second lockdown, which was a *partial lockdown,* on October 14 (de Jonge, 2020; Rijksoverheid, 2020b, 2020h). The measures taken were amongst others the prohibition of the sale of and consumption of alcohol in public areas between 20:00 and 7:00 hours. Additionally, the closing of retail at 20:00 hours, and the closing of restaurants and cafes went into effect. Wearing facemasks became compulsory instead of an 'urgent recommendation' (de Jonge, 2020, pp. 6-7).

On December 15, 2020, the *full lockdown* commenced as the situation had reached the gravest phase. Additional measures on top of measures already in effect were the full closure of all non-essential retail venues and public indoor spaces such as museums and libraries. Additionally, the practicing of occupations for which physical contact is necessary, such as hairdressers, was prohibited. Furthermore, it was allowed

to receive a maximum of two guests per day per household, and it was prohibited to be with more than two persons of over thirteen years old in public spaces. As of January 20, 2021, households were allowed to receive *one* quest per day. On January 23, a curfew by law was implemented between 21:00 and 4:30 hours. (Rijksinstituut voor Volksgezondheid en Milieu, 2021b; Rijksoverheid, 2020c, 2020d).

The measures of the full lockdown lasted until April 28. As of this date, measures have been and will continue to be lifted gradually, as, at the time of writing (June, 2021), infections keep declining. (Rijksinstituut voor Volksgezondheid en Milieu, 2021b; van Dissel, 2021).

2.1.2 Components of the Corona crisis

The Covid-19 pandemic and the measures as described in paragraph 2.1.1 resulted in the *Corona crisis*. The Corona crisis refers to all consequences of the pandemic itself and of the government-imposed measures to safeguard public health.

Consequences of the pandemic are the impact of the disease itself on society, making the crisis partly a *health* crisis. This impact is direct and indirect and causes consequences in the immediate, near and long term. The direct and immediate effects are the impact of Covid-19 on the infected people and on health care systems itself. The World Health Organization (2020) mentions that "Health services have been partially or completely disrupted in many countries" and that there is "a lack of staff because health workers [have] been reassigned to support COVID19 services". Deloitte (2020) highlights the consequential immediate and near-term indirect effects of "physical and mental exhaustion of the healthcare workforce, along with worn-out hospital infrastructure". Furthermore, higher sickness absence impacts health care systems and society because of many people falling ill or having to stay away from work as a precaution. Finally, a "growing 'backlog' of healthcare procedures" is developing due to the discontinuation of many treatments (Deloitte, 2020).

Besides being a *health* crisis, the Corona crisis is also a *socioeconomic* crisis since it "has the potential to create devastating social, economic and political effects" (United Nations Development Programme, 2020). These effects result from both the direct impact of the disease itself on healthcare systems and its indirect impact on society and the described government-imposed measures to safeguard public health, i.e., the lockdowns (Office for Budget Responsibility, 2020, pp. 3-4). Similar to the impact of the disease itself, the impact of the measures taken is direct and indirect and causes consequences in the immediate, near and long term. Paragraph 2.2 elucidates the socioeconomic effects.

The Corona crisis thus consists of a *health crisis* and a *socio-economic crisis*. Image 2.1 shows a schematic overview of the different crisis components. Moreover, this image illustrates the origination of the Corona crisis and its resulting effects.

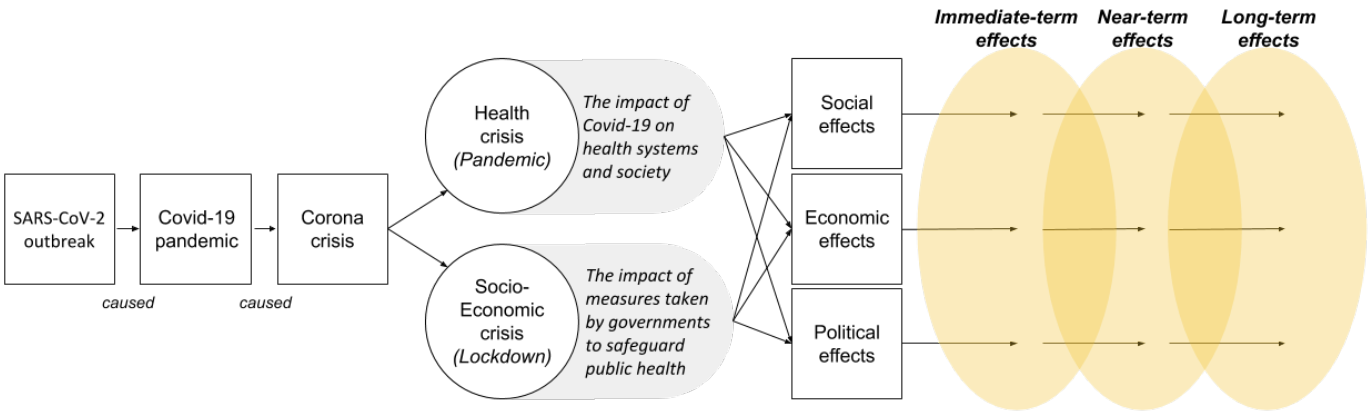


Image 2.1: The origination of the Corona crisis and its resulting effects.

2.2 The socio-economic effects

As mentioned in the previous paragraph, the social, economic and political effects encompass immediate, near and long-term consequences. The political reverberations include the possible rise of populism, as fear for Covid-19 can reinforce populist ideas (Abadi, Arnaldo, & Fischer, 2020). However, in this research, the social and economic effects are of particular interest. The following paragraphs will elucidate the various socio and economic effects of the Corona crisis.

2.2.1 Socio effects

The physical and mental health crisis

The corona crisis is primarily a *physical* health crisis, and the social impact is, as explained, the effect on the infected people and health care systems itself. However, as the United Nations (2020, p. 2) warn, the crisis "has the seeds of a major *mental* health crisis". A study conducted by Arnout et al. (2020, p. 26) confirms the upsurge of psychological problems as "the increased prevalence of COVID -19 has a negative effect on the mental health of individuals". The United Nations (2020) likewise state that the fear for Covid-19 causes psychological distress. They explain that "many people are distressed due to the immediate health impacts of the virus and the consequences of physical isolation" (United Nations, 2020, p. 2). Hence, the effect of measures like working from home, social distancing and the closing of schools (as described in paragraph 2.1.1) contribute to the loneliness and mental health problems. Deloitte (2020) affirms that these measures, combined with the economic downturn, impact mental health as well as physical health. They add that this causes anxiety, depression, weight gain and an increase in the consumption of an unbalanced diet. These effects are present in the immediate term but will increase in the near- and long term. The United Nations (2020, p. 2) warn that "a long-term upsurge in the number and severity of mental health problems is likely".

Working from home

Working from home is, as mentioned, one of the government's measures to combat the Covid-19 pandemic. Working from home can be defined as the performance of "any number of income-generating activities within the home by the householder" (Doling & Arundel, 2020, p. 1). Similar to the prospected long-term upsurge of mental health problems, research of CNV (2020) concluded that "work-related stress increases as the crisis lasts longer". They elaborate that 29% of employees experience increasing work-related stress the longer the crisis continues and that 38% experiences less enjoyment from working. Therefore, the expectation is an upsurge in 'Corona burnouts' (CNV, 2020; Niewold, 2020).

Be that as it may, the prospect is that people will continue working from home after the crisis is over. Levi (2020) explains that employers have invested significantly in resources for supporting working from home and will continue to use these even after the economy reopens. Nieuwsuur (2021) states that major employers have already announced planning to dispose office space after the Corona crisis in response to the permanent continuation of working from home. Additionally, Hamersma, de Haas, and Faber (2020) conclude that between forty and sixty per cent of employees working from home *want* and *expect to* continue doing so after the crisis, preferably for one to three days a week. An explanation for this is the relationship between working from home and efficiency, which illustrates the importance for balance (*image 2.2)*. Additionally, Raišienė et al. (2010, as cited by de Palma & Vosough, 2021, p. 30) show that working from home for "up to two days a week emphasize[s] the advantages of telework, and more telework results in […] more conflicts".

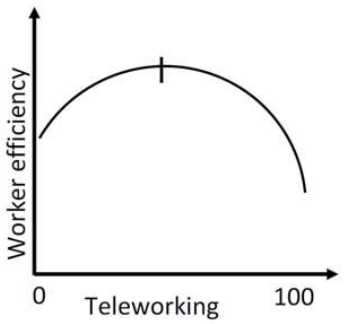


Image 2.2: The relationship between working from home and efficiency. (OECD (Organization for Economic Co-operation and Development), 2020)

2.2.2 Economic effects

Effects of the physical and mental health crisis

The physical and mental health crisis impact the economy, as mentioned, through the higher sickness absence due to people falling ill or having to stay away from work on a preventative basis. This is a burden for businesses as "Absenteeism leads to economic damage because personnel costs are lost without any return" (Koolmees, 2020; van der Ploeg, van der Pal, de Vroome, & van den Bossche, 2014, p. 3). Correspondingly, the expected upsurge in Corona burnouts will impact the economy significantly.

Effects of the lockdown on the workforce

The effects on the economy caused by measures taken by governments are substantial. Nicola et al. (2020, p. 185) state that "Social distancing, self-isolation and travel restrictions have led to a reduced workforce across all economic sectors and caused many jobs to be lost". Even though effects are seen in all sectors, it is evident that especially groups that are already vulnerable are impacted most. As the United Nations Conference on Trade And Development (UNCTAD) (2020) states; "the pandemic's impact has been asymmetric and tilted towards the most vulnerable, [...] affecting disproportionately low-income households, migrants, informal workers and women". They further elaborate that "COVID-19 has had an excessive effect on two sectors – tourism and micro, small and medium-sized enterprises – which employ many vulnerable groups".

Like on the global scale, vulnerable groups are impacted most in the Netherlands (Muns, Olsthoorn, Kuyper, & Vlasblom, 2020). In the affected sectors, there are relatively many self-employed people and low paying jobs on flexible contracts. The latter are performed by relatively many immigrants, low-educated workers and people with a distance to the labour market. (Muns et al., 2020). Additionally, many of the jobs performed in the highly impacted sectors cannot be executed from home, whereas this is not a problem for many high-paying jobs in less impacted sectors. As a consequence, inequality is growing. Altogether, "a third of all employees working in the Netherlands work in a sector experiencing a(n) (extremely) large shrinkage of employment" (Kalkhoven & de Vries, 2020, p. 1). As such, a large proportion of society is impacted economically through their income.

Effects of the lockdown on GDP

The International Monetary Fund (2020) predicts a fall in GDP. This fall is caused by the lockdown's direct effects, namely supply-side disruptions, and indirect effects, meaning demand-side disruptions. Supply-side disruptions refer to "the breakdown of global production chains, the closure of restaurants, hotels, museums, etc., [and] the sudden stop of international trade and transportation" (Storm & Naastepad, 2020, p. 10). Demand-side disruptions encompass the described impact on the workforce, i.e., "higher unemployment, lower incomes and massive uncertainties" (Storm & Naastepad, 2020, p. 10). Additionally, "the need for commodities and manufactured products has decreased" (Niewold, 2020, p. 185). What the outcome of the crisis on the economy will be is uncertain, as "the economic fallout depends on factors that interact in ways that are hard to predict" (International Monetary Fund, 2020, p. 1).

3. Housing preference theory

As the previous chapter showed, the Corona crisis has much impact on society. Since all measures are focussed on limiting human contact by coercing people to stay at home, this is expected to have instigated change in housing preferences. In order to understand this change, first understanding needs to be gained about what a housing preference is and how it is formed. This chapter will provide insight into the subject.

3.1 Housing preference and choice

Zinas and Jusan (2012, p. 282) describe preference as "a function of choice". Jansen et al. (2011) caution that 'preference' and 'choice' are distinct terms. They describe preference as the respective attractiveness of a dwelling as perceived by a person, whereas choice, on the other hand, concerns 'actual behaviour' (Jansen et al., 2011, p. 2). Following this, Jansen (personal communication, September 24, 2020) states that housing preferences can be categorized into three levels i.e., the ideal preference, stated preference and revealed preference. These levels range from 'expressed preference' to 'observed choice' (Orzechowski, 2004).

Jansen elaborates that an **ideal preference** is when people haven't oriented themselves yet and the resulting preference might not be realistic. Priemus (1984) calls this the *subjective* ideal preference. Jansen et al. (2011, p. 9, referring to Priemus, 1984) explain this is "the dwelling or the dwelling feature that is ideal to the household based on its specific characteristics [such as age, household composition and current housing situation], irrespective of dwelling supply or budget constraints". Priemus (1984) furthermore differentiates an *objective* ideal preference. This preference, on the other hand, does take available supply or financial constraints into consideration, and is the ideal housing "according to experts who base their opinion on economical, planning, and other criteria that they consider important for the particular household" (Jansen et al., 2011, p. 9, referring to Priemus, 1984).

The second housing preference that Jansen (personal communication, September 24, 2020) mentioned, the **stated preference**, is a more or less realistic aspirational preference for which people have oriented themselves on the housing market. Jansen et al. (2011, p. 58) explain that the stated preference will be shaped as "the housing consumer [learns] how the housing market enables or constrains the housing search". This is where demand more or less starts shaping itself to available supply. Priemus (1984, as cited by Jansen et al., 2011, p. 9), describes it as "a dwelling or dwelling feature that is ideal to the household based on its specific characteristics and that is potentially available". Coolen and Hoekstra (2001, pp. 285-286) define the stated preference as "intended choices or hypothetical choices".

However, Molin et al. (1996, p. 298) elaborate that "actual choice reflects average preferences if an individual can freely express his preferences". In reality, individuals often cannot 'freely express their preferences' as they are constrained by e.g. "supply-demand conditions and the (dis)equilibrium of the systems" and their stated preferences is also potentially *un*available (Molin et al., 1996, p. 299). As such, the actual choice i.e. the **revealed preference** might differ from the stated- or ideal preference (Jansen et al., 2011; Molin et al., 1996). If this is the case, residents have either deferred the actual choice, or have selected "an alternative of lower preference" (Molin et al., 1996, p. 298). In other words, demand is now subject to supply. All in all, "observed choices will always reflect the joint influence of preferences, market conditions, and availability" (Orzechowski, 2004, p. 9).

3.2 Influence of constraints

It is now clear that a preference ranges from *ideal* to *revealed* in which an ideal preference is unconstrained, and the influence of constraints increases towards a revealed preference. Jansen et al. (2011, p. 227) state that the revealed preference "depends on individual resources and restrictions at the *micro level*, as well as housing opportunities and constraints at the *macro level*".

A distinction is thus made between micro- and macro level constraints. Micro level constraints refer to the housing- and household situation e.g., the 'individual resources', and 'accessibility to the place of work or the children's school'. Macro level constraints include influence of market conditions i.e., 'the availability and accessibility of the supply' (Jansen et al., 2011; Orzechowski, 2004). Image 3.1 shows the range of preferences and choices and the corresponding level of influence of constraints.

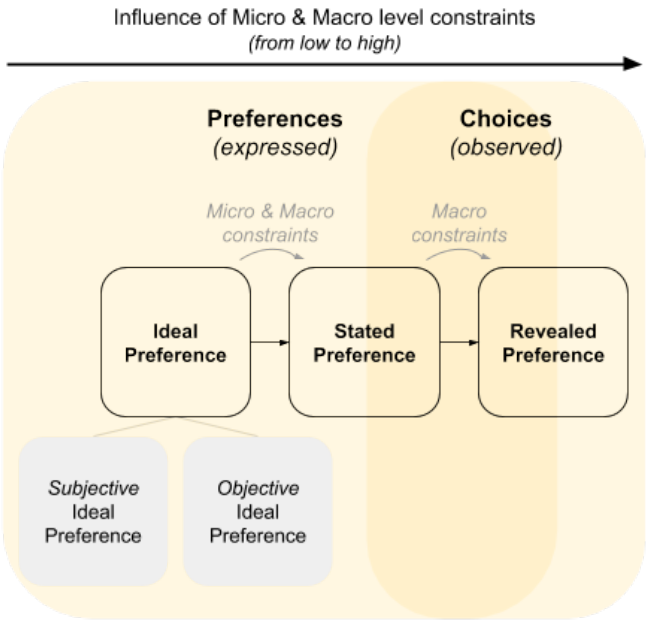


Image 3.1: Preferences and choices and the corresponding amount of influence of micro- and macro level constraints.

3.3 Housing preference as a utility function

3.3.1 Attributes

A housing preference is, as described in paragraph 3.1, the respective attractiveness of a house as perceived by a person. Coolen and Hoekstra (2001, p. 285) explain that when looking at housing preferences, housing is generally seen as a 'bundle of attributes'. Zinas and Jusan (2012, p. 285) define attributes as the "intrinsic and physical features, properties or characteristics that define a product or person".

Attributes are categorizable into concrete and abstract attributes (Olson and Reynolds, 1983, as cited by Zinas & Jusan, 2012). Vriens and Hofstede (2000, p. 4) define concrete attributes as "relatively directly observable physical characteristics [...], e.g. price, colour, weight etc.". Abstract attributes are defined as "meanings perceived by the housing user" (Mahmud, 2007, as cited by Zinas & Jusan, 2012, p. 285). More simply said, a dwelling encompasses objective and subjective characteristics. Paragraph 3.5 will elaborate further on housing attributes.

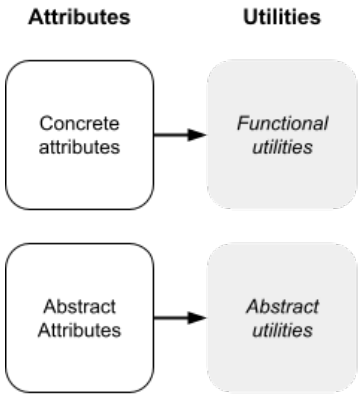


Image 3.2: Attributes generating utility (schematic overview).

3.3.2 *Generating Utility*

According to Vriens and Hofstede (2000, p. 4) "Attributes gain their relevance because they allow the consumer to achieve certain benefits". Molin et al. (1996) likewise state that consumers acquire some utility through each of the attributes. Gutman (1982) defines this as consequences. All refer to the same concept. Olson and Reynolds, 1983, as cited by Zinas and Jusan (2012, p. 283) mention that "housing preferences and choices operate within the framework of preferences and choices for housing attributes". A housing preference is thus a sum of preferences for utility generating attributes, and people are utility maximizers. Accordingly, Molin et al. (1996, p. 298) define the stated preference as the "consumer choice as a manifestation of utility maximizing behavior (highest preference)".

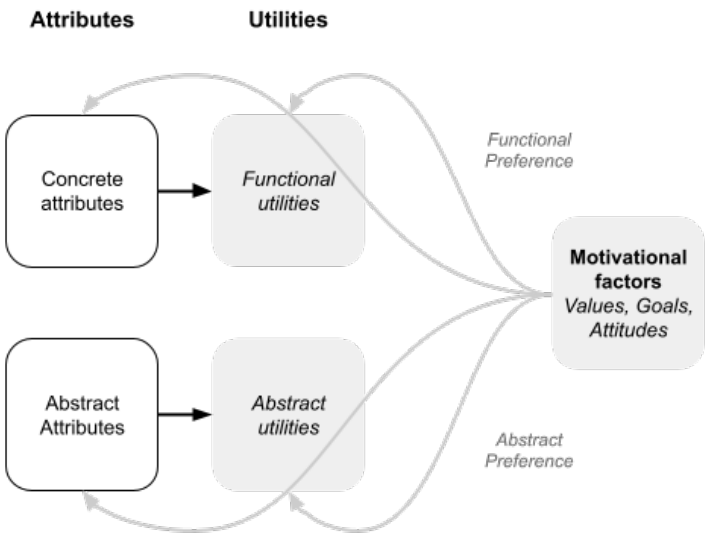


Image 3.3: The motivation for certain utility-generating attributes (schematic overview).

Relative to the attributes, there is a distinction between functional utilities and abstract utilities (Zinas & Jusan, 2012). Functional utilities encompass "practical benefits and performance outputs" whilst abstract utilities refer to "feelings or social considerations" and are also referred to as 'psychological consequences' (Zinas & Jusan, 2012, p. 186). Image 3.2 depicts the relation between attributes and utility.

3.3.3 *Motivational factors*

Gutman (1982); and Vriens and Hofstede (2000) all state that the utilities which a person pursues are related to their personal values. Coolen and Hoekstra (2001) likewise state that the underlying motivational factors such as values, goals and attitudes are what determines which attributes and utilities are desired. Zinas and Jusan (2012, p. 283) explain these "underlying motivations [...] make it possible for an individual to choose from available alternatives". Image 3.3 depicts a schematic overview of the motivation for certain utility-generating attributes.

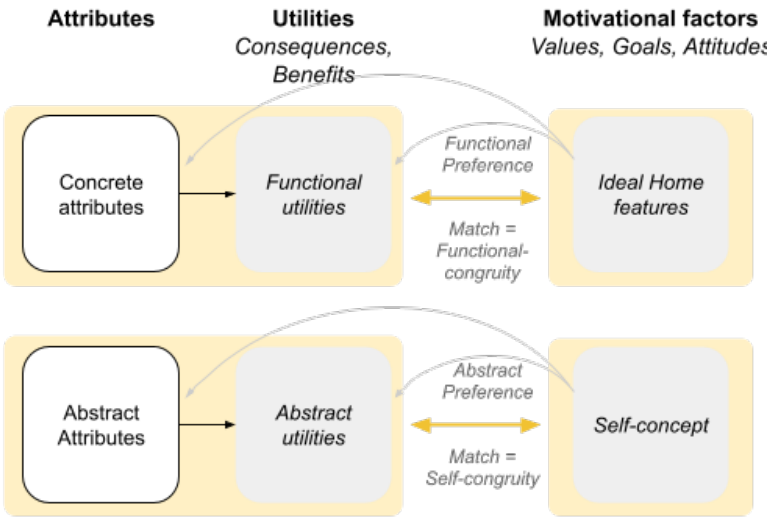


Image 3.4: The formation of a preference (general theory). (Based on Coolen & Hoekstra, 2001; Gutman, 1982; Molin, Oppewal, & Timmermans, 1996; Sirgy, Grzeskowiak, & Su, 2005; Vriens & Hofstede, 2000; Zinas & Jusan, 2012)

Sirgy et al. (2005) make a distinction within these motivational factors between the functional aspects of the dwelling and the *self-image* of the homebuyer, which is how a person sees himself. This corresponds with the distinction of concrete and abstract attributes and utilities. They elucidate that when these desired functional or self-aspects coincide with the attributes and utilities obtained, this is known respectively as *functional congruity* and *self-congruity*.

Functional congruity is described as the "psychological evaluation of a home based on a comparison of utilitarian aspects of the home with ideal features"(Sirgy et al., 2005, p. 330). In essence, these 'utilitarian aspects of the home with ideal features' is a person's *functional preference*. If functional congruity is reached, the functional preference matches the revealed preference.

Self-congruity is defined as "the degree of match between the product-user image and the buyer's self-concept" (Sirgy et al., 2005, pp. 331-332). The user image of a certain product, in this case a dwelling, is the "stereotyped perception of a generalized user of [the dwelling]"(Hosany & Martin, 2012, p. 686). Self-congruity is thus when this matches how a person sees himself. Essentially, this is thus an *abstract preference*. If self-congruity is reached, the abstract preference matches the revealed preference. This concludes the general theory of preference formation, as is shown in image 3.4.

3.3.4 Conclusion

In summary and as explained in image 3.5, a housing preference consists of preferences for certain attributes which generate utility, and in which people are utility maximizing. These attributes and utilities consist of a concrete and an abstract component. When the concrete attributes and functional utilities of a dwelling coincide with the desired ideal home features, functional congruity is reached. When the abstract- attributes and utilities of a dwelling coincide with the self-image of the homebuyer, self-congruity is reached. A preference is thus made up of functional- and abstract (self) aspects.

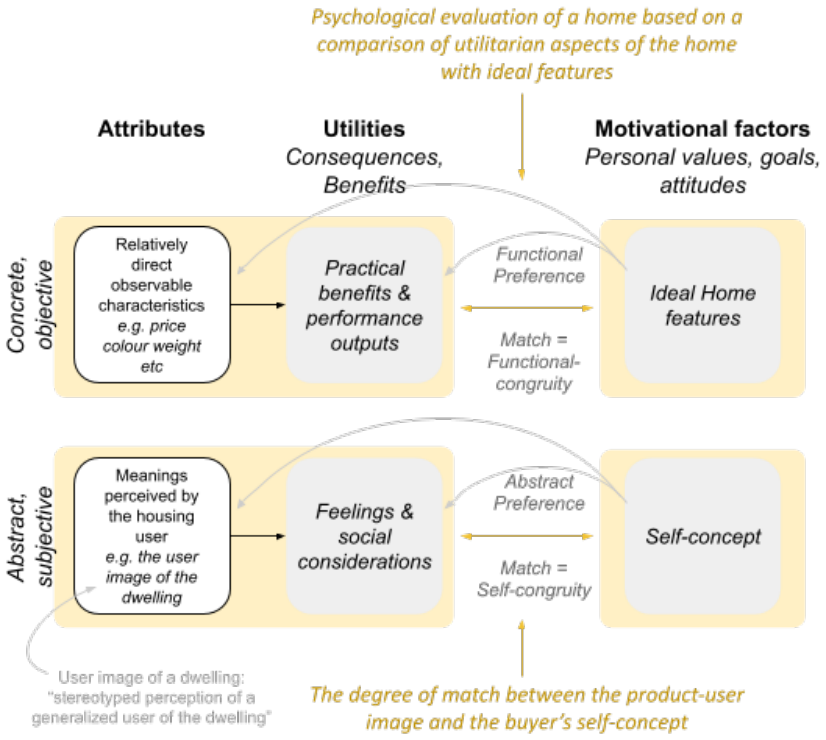


Image 3.5: The formation of a preference (general theory) explained.
(Based on Coolen & Hoekstra, 2001; Gutman, 1982; Molin et al., 1996; Sirgy et al., 2005; Vriens & Hofstede, 2000; Zinas & Jusan, 2012)

3.4 Formation of the three levels of housing preferences

When this theory of preference formation is applied to the discussed three levels of housing preferences, the formation of these becomes apparent. Image 3.6 and 3.7 show respectively the formation of an ideal, stated and revealed preference.

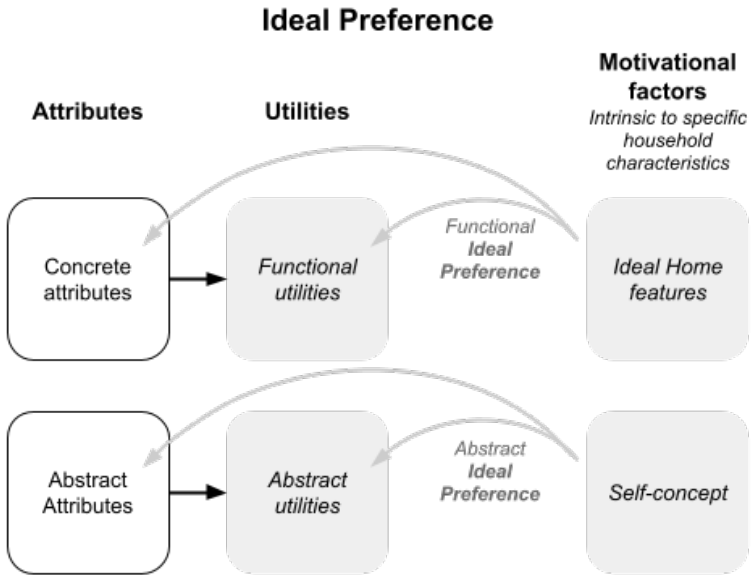


Image 3.6: The formation of an ideal preference; no influence of constraints.
(Based on Coolen & Hoekstra, 2001; Gutman, 1982; Molin et al., 1996; Sirgy et al., 2005; Vriens & Hofstede, 2000; Zinas & Jusan, 2012)

First, as shown in image 3.6, the ideal preference is formed without being constrained so that the motivational factors i.e., the values goals and attitudes, are solely based on the household's characteristics. Along these lines, the grey arrows indicate here that there is a motivation intrinsic to the specific household's characteristics for preferring certain attributes and utilities. These attributes and utilities make up the household's unconstrained ideal home features.

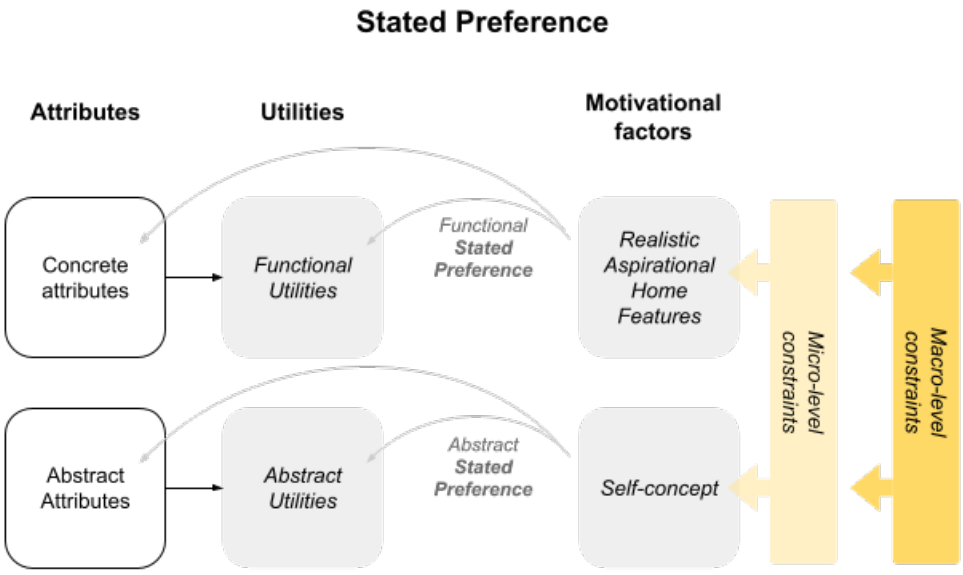


Image 3.7: The formation of a stated preference; influenced by micro- and macro level constraints.
(Based on Coolen & Hoekstra, 2001; Gutman, 1982; Molin et al., 1996; Sirgy et al., 2005; Vriens & Hofstede, 2000; Zinas & Jusan, 2012)

Next, as micro- and macro level constraints exert influence, the stated preference is shaped as depicted in image 3.8. The constraints influence which goals, values and attitudes people have for a home as they learn "how the housing market enables or constrains the housing search" and how this coincides with their economic situation (Coolen & Hoekstra, 2001; Jansen et al., 2011, p. 58).
Thus, the personal values, goals and attitudes together with the micro- and macro level constraints have determined the realistic aspiration home features, and as such which attributes and utilities are preferred following this.

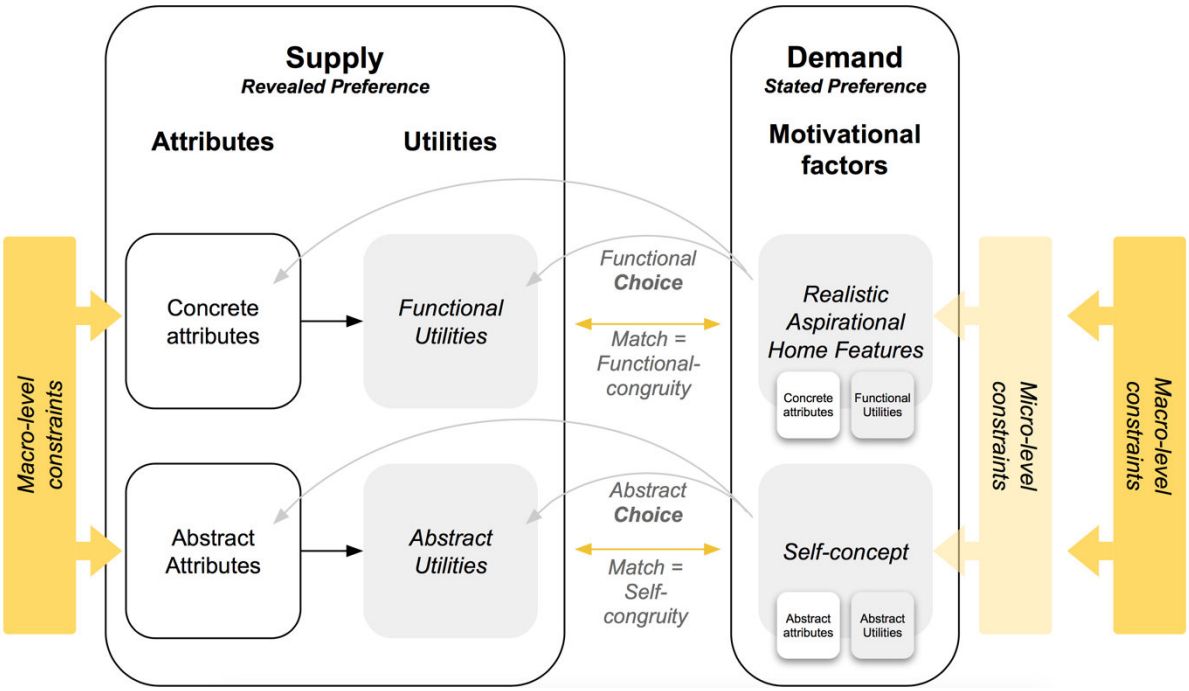


Image 3.8: The formation of choice; influenced by micro- and macro level constraints and the disequilibrium of supply and demand.
(Based on Coolen & Hoekstra, 2001; Gutman, 1982; Molin et al., 1996; Sirgy et al., 2005; Vriens & Hofstede, 2000; Zinas & Jusan, 2012)

Finally, a revealed preference i.e., the observable choice is formed, as depicted in image 3.8. In the formation of choice, the stated preference is the demand, and the revealed preference is the choice made out of available supply. If the stated preference matches the revealed preference, people have obtained the concrete and abstract attributes which match their realistic aspirational housing features and self-concept. If so, congruity is thus reached.

In summation, a housing preference is a sum of preferences for certain utility-generating attributes which together make up the 'ideal or realistic aspirational housing features', and these preferences are determined by the personal values, goals and attitudes (the motivational factors) together with the micro- and macro level constraints.

4. Housing preferences in practice

The previous chapter presented the theoretical justification of what a housing preference is and how it is formed. This chapter illustrates what this means in practice. First it is explained what the attributes, motivational factors and constraints which are fundamental to a housing preference are. This leads up to a reasoning of when and why housing preferences change. The chapter concludes with a hypothesis of what change the Corona crisis has exerted on housing preferences. This is concurrently the conclusion of the literature part of this thesis, and the basis for the fieldwork conducted.

4.1 Attributes and motivations fundamental to housing preferences

So, what are these utility-generating attributes for which people have a certain motivation? As mentioned in paragraph 3.3.1., housing is generally seen as a 'bundle of attributes', and attributes are the "intrinsic and physical features, properties or characteristics that define a product or person" (Coolen & Hoekstra, 2001, p. 285; Zinas & Jusan, 2012, p. 285). For understanding what constitutes a housing preference in practice, the attributes which are fundamental to the housing preferences are of importance. In order to define these attributes which determine a housing preference, first the relationship between housing preferences and satisfaction needs to be understood.

4.1.1 Housing preferences and satisfaction

Housing preferences are linked with housing satisfaction. Amérigo and Aragones (1997, p. 55) define housing satisfaction as "the gap existing between achievements and aspirations". This is corroborated by Jansen (2013, p. 803), who describes satisfaction as "the gap between what residents want and what they have". Galster and Hesser (1981) mention that if congruity is (approximately) reached between 'the current situation' and 'that defined by needs and aspirations', satisfaction is obtained. When talking about aspirations, both sources refer to the *stated preference*. This is evident from the research of Jansen (2013, p. 803), who explains that the mentioned gap is relatively small as "residents seem to have realistic aspirations". As mentioned in paragraph 3.1, stated preferences are 'more or less realistic aspirational preferences' whereas ideal preferences might not be as such. Satisfaction can thus be defined as the gap between the stated- and revealed preference. Or, otherwise stated, the difference between the revealed- and stated preference is *a measure* for housing satisfaction; the greater the congruity, the higher the satisfaction (Jansen, 2017). Image 4.1 illustrates this relationship between housing preferences and satisfaction.

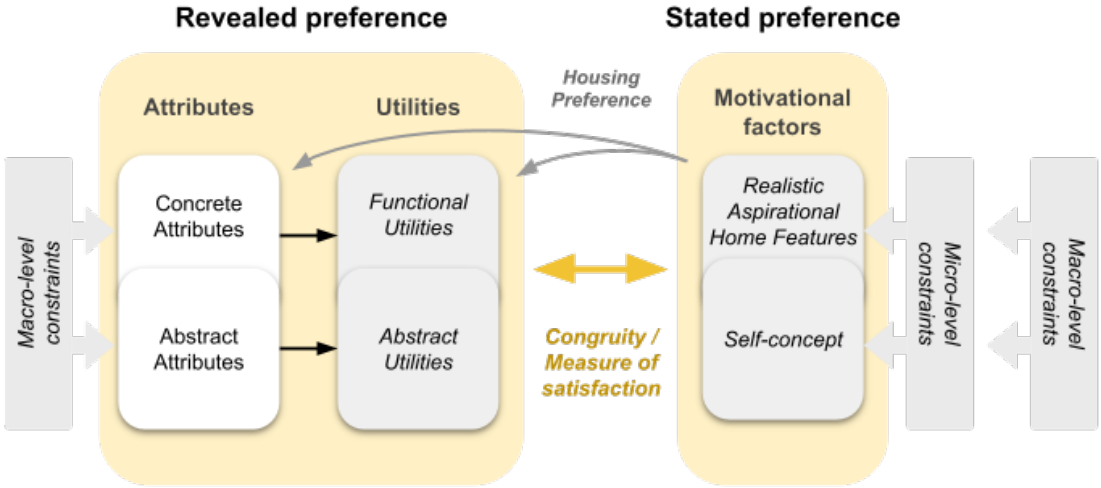


Image 4.1: The relationship between housing preferences and satisfaction. (based on Jansen, 2017; Janssen, Dongen, Vos, & Miedema, 2006)

4.1.2 Attributes and motivations fundamental to housing preferences

Janssen et al. (2006) presented a framework consisting of the factors contributing to housing satisfaction. As mentioned in paragraph 3.1, Molin et al. (1996, p. 298) define the stated preference as the "consumer choice as a manifestation of *utility maximizing behavior* (highest preference)". The previous paragraph just explicated that when a stated preference matches the revealed preference and congruity is reached, housing satisfaction is maximized. **This means that the factors contributing to housing satisfaction as defined by Janssen et al., simultaneously are the bundles of attributes for which a housing consumer has a certain motivation, and which shape a housing preference**. Since people are utility maximizers and will aim for highest satisfaction through these attributes. Image 4.2 shows an adaptation of the model of Janssen et al., and shows the various factors contributing to housing satisfaction, i.e., the bundles of attributes for which people have a certain motivation, thus forming a housing preference.

4.1.3 Categories of attributes fundamental to housing preferences

Looking at the framework of Janssen et al. (2006), the bundles of attributes which are fundamental to the housing preferences can be said to appertain to roughly three categories, as shown in image 4.2 in green, blue and yellow. These categories can be defined as the dwelling itself (blue), the (physical characteristics of-, and functional amenities in-) the living environment (green), and the social environment (yellow). The framework has been complemented with *functional greenery* in the 'amenities in the living environment' category, which refers to greenery usable for recreational purposes such as parks.

The framework encompasses solely functional attributes since the functional stated preferences are the scope of this thesis, as explained in paragraph 1.3. An attribute can be anything and can range widely in level of detail. For example, while a 'room' is an attribute, the material used within this room is an attribute as well. However, of relevance for housing preferences are the attributes belonging to the categories as mentioned in image 4.2.

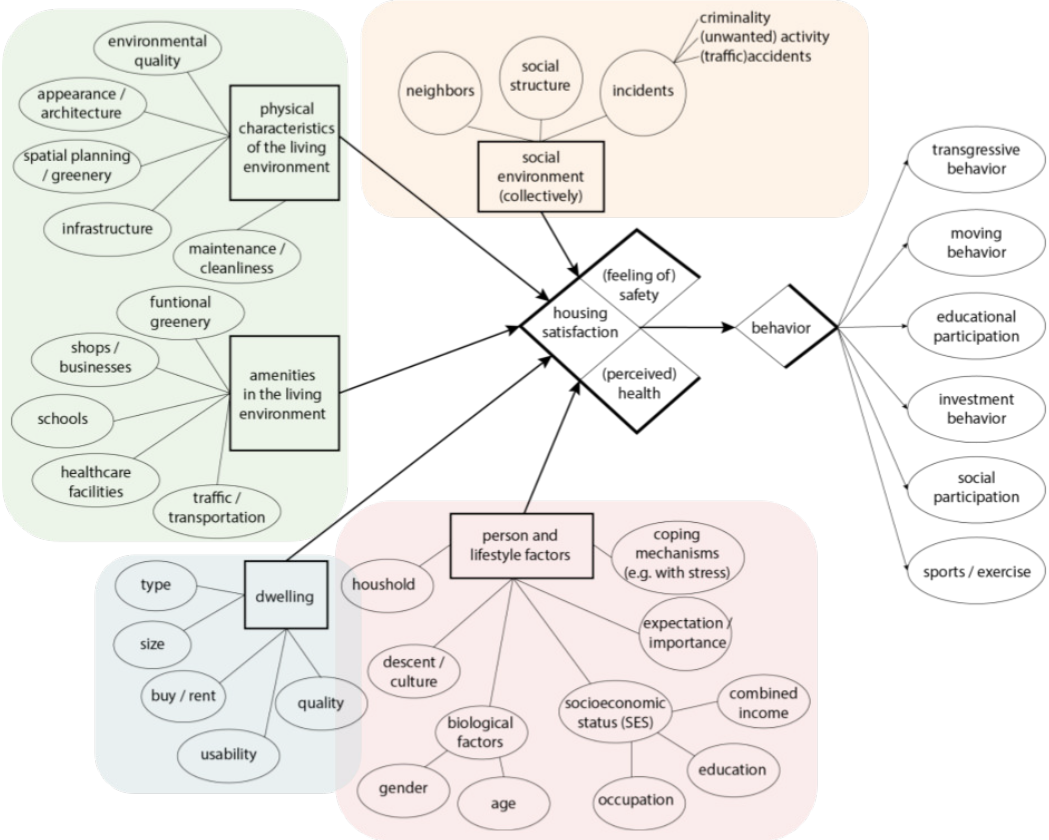


Image 4.2: The categories of attributes which constitute a housing preference (yellow, blue green), and the motivational factors which make it possible to choose between the available alternatives (red). (Adapted from Janssen et al., 2006, p. 2)

All three categories of attributes contain the concrete as well as the abstract aspect of attributes and corresponding utilities. For example, a certain household might have a preference for a house in the city as they value amenities in the living environment highly. This is their functional preference. Additionally, this household's self-image is that of young, urban professionals. As such, the product-user image of living in the city matches the self-image of the household.

When integrating these attribute categories into the model of the formation of preferences, the model develops as shown in image 4.2.

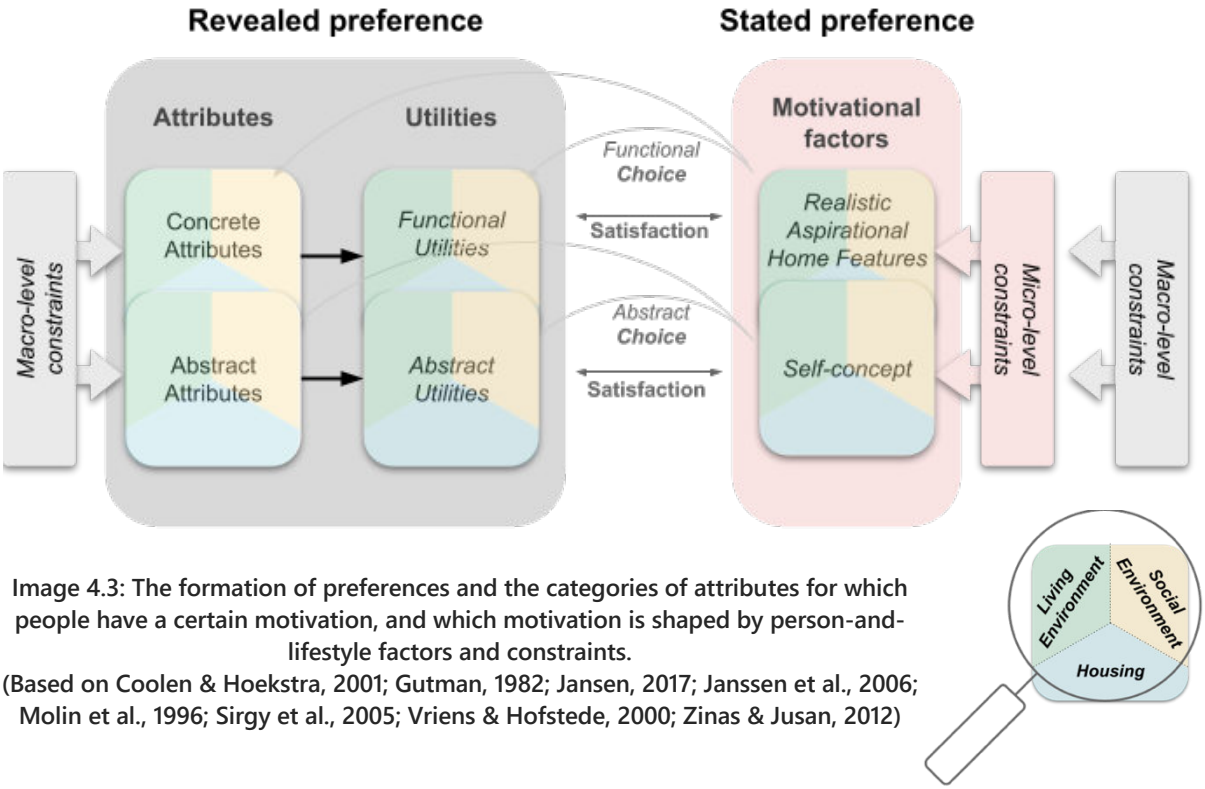


Image 4.3: The formation of preferences and the categories of attributes for which people have a certain motivation, and which motivation is shaped by person-and-lifestyle factors and constraints.
(Based on Coolen & Hoekstra, 2001; Gutman, 1982; Jansen, 2017; Janssen et al., 2006; Molin et al., 1996; Sirgy et al., 2005; Vriens & Hofstede, 2000; Zinas & Jusan, 2012)

4.1.4 Factors determining which attributes people prefer: motivations and constraints.

Motivations

In contrary to the mentioned three categories, the person-and-lifestyle factors, as indicated in red in image 4.2, do not contain bundles of attributes. The person-and-lifestyle factors contain the *characteristics intrinsic to the household* and encompass the values, goals and attitudes which motivate people to prefer certain attributes of the previous categories. In other words, they represent the motivational factors. As can be seen in the framework, Janssen et al. (2006), classify these as the household composition, the descent or culture of a household, biological factors, a household's expectations and values, their coping mechanisms (with e.g. stress), and their socioeconomic status (SES). The SES is "a measure of [a household's] combined economic and social status [in relation to others]" (Baker, 2014). When analyzing a SES, the three measures examined are the household's combined income, the earner's education, and the occupation. The biological factors are further specified as age and gender. These specifications are included in image 4.2.

These motivational factors which Janssen et al. (2006) classified are, as mentioned, what make it possible for a person to choose between the many available alternatives and determine what is wished for in functionality (functional preference) as well as in meaning (abstract preference). In practice, this means that while some people might highly value having a garden and prefer a single-family house in a village, others might find amenities in the living environment more important and will prefer a dwelling in an urban area.

The classification of Janssen et al. can be traced back to a monograph Rossi wrote in 1955. In his monograph 'Why families move: a study in the social psychology of urban residential mobility' he determined the relationship between demographic characteristics and housing preferences, and with this, he was the patriarch of modern housing preference theory (Rossi, 1988). He discovered that "[…] households that could afford to, moved from housing units that did not meet their needs for space and amenities to units that did meet those needs" (p. 14). In other words, households prefer certain attributes which fulfil their needs, and those needs are determined by their demographic characteristics, by Janssen et al. specified as the person-and-lifestyle factors. In practice, this means that for example a family with young children probably values having a single-family house with enough rooms for the children and with a garden.

Constraints – micro level

Besides representing the motivational factors of a household, these person-and-lifestyle factors also encompass their micro-level constraints, which paragraph 3.2 explained as the constraints intrinsic to the household. Once again looking at Rossi's statement it is evident he not only talked about what a household needs but also what a household *can afford*; "[…] households *that could afford to,* moved from housing units that did not meet their needs for space and amenities to units that did meet those needs" (1988, p. 14). What a household can afford is among others determined by their micro-level constraints. As explained in the previous paragraph, the SES is "a measure of [a household's] combined economic and social status [in relation to others]" (Baker, 2014). For example, while a household's SES *motivates* this household to live in a certain city (e.g. which is close to their work), and in a certain type of house (e.g. which matches their self-image, which is fueled by their occupation), the SES also determines the household's (financial) *housing possibilities,* which might *constrain* their stated preference. A person-and-lifestyle factor can thus simultaneously represent a motivational factor as well as a micro-level constraint. This needs to be taken into account in researching the housing preferences.

Similar to the categories of attribute-bundles, the person-and-lifestyle factors are integrated in the preference formation model in image 4.2, where they are indicated in red.

Constraints – macro-level

As is now clear, the person-and-lifestyle factors encompassing motivational factors and micro-level constraints together determine which dwelling, living environment and social environment attributes are preferred by a household. This constitutes the basis for the stated preference. However, as explained in chapter three, macro-level constraints also exert influence. As stated in paragraph 3.2, macro level constraints refer to the influence of market conditions i.e., 'the availability and accessibility of the supply' (Jansen et al., 2011; Orzechowski, 2004). This availability is very low since "the Netherlands has never experienced a tighter existing owner-occupied housing market than now with a tight indicator of 1.7" which means that for each buyer less than two options are available, and accessibility is limited since "the average asking price of a house for sale has increased with 10% compared to 2020" (Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A., 2021, p. 2).

In practice, this means that the current disequilibrium between demand and supply, and the overheating of the housing market which results in all-time-high prices both influence household's their preferences They will adjust their preference as determined by the motivational factors and micro-level constraints to be realistic in the current housing market and will arrive at their final stated preference.

4.2 When do housing preferences change?

It is now clear how a housing preference is determined in practice. From this can be deducted that changes in housing preferences are caused by changing motivational factors and/or changing constraints.

4.2.1 Changing motivational factors

Rossi's theory of how demographic characteristics determine housing preferences, included a theory about how these demographic characteristics change through people their 'life-cycle stages' (Rossi, 1988). He stated that "changes in household size, age and gender mixes" caused "housing appropriate for one life-cycle stage [to become] inappropriate at a later stage" (p 14). He thus points out the effect of changing motivational factors, as well as the relationship between age and preferences. Corroborating this are Coulter and Scott (2015), who researched self-reported reasons and motivations for wanting to move, and concluded that these reasons "vary considerably over the life course" (p. 354). They further concluded that the main motivation for changing housing preferences were life-course events, and that people are more likely to act on their changed preference if their motivations are more 'targeted' such as for job opportunities. In contrary, they are less likely to act upon their changed preference of the motivation is more 'diffuse', such as a dissatisfaction with area characteristics. The foremost conclusion following this was that over the life course, these "'targeted ' or focused motivations [...] (such as jobs) will give way to more 'diffuse' consumption oriented preferences (e.g. regarding dwelling or neighbourhood characteristics) with increasing age" (p. 357). This is therefore how motivational factors change, and consequently how these changed factors change preferences.

In practice, this means that if a child is born (a life-course event i.e., a targeted motivation) into a young family which now enters into a next life-cycle stage, the required utility changes and an extra room is needed (attribute). In other words, their stated preference changes. If their new stated preference differs too much from their current revealed preference (current dwelling) they will wish to move. Later in life, while their child is growing up (a later life-cycle stage), they might not be happy anymore with the neighbourhood (diffuse motivation) and their stated preference will change again. Once more, if their new stated preference differs too much from their revealed preference (current dwelling), they will wish to move. The latter (diffuse) motivation might not as vigorously widen the gap between the stated and revealed preference as the targeted motivation might have done, and the 'need' for acting upon their new preference might not be as high.

4.2.2 Changing constraints

As mentioned, changes in housing preferences are not only caused by changing motivational factors but can also be caused changing micro and macro level constraints. A household's SES changes over their life course as well. People might make a career and improve their combined income and through this, increase their housing possibilities. Or someone might lose their job and experience a decrease in housing possibilities. Furthermore, the housing market changes as well, which changes housing possibilities within reach for a certain household on the macro level. In practice, this means that even though the family from our previous example might have experiences a change in housing preferences big enough to determine a wish for moving, these micro and macro level constraints will influence their preference once more to arrive at the final *new* realistic aspirational i.e., stated preference.

4.3 How the Corona crisis instigated change

4.3.1 The influence of socio-economic circumstances on preferences

Now that it's clear why and how housing preferences change, it is also comprehensible why and how the Corona crisis is expected to have instigated change. As explained in chapter two, the Corona crisis is a *socio-economic* crisis since socio-economic circumstances are highly affected by the Covid-19 pandemic. These socioeconomic circumstances, which are explicated in chapter two, encompass social effects such as mental health problems and prospected burnouts, and the change in daily-life structure because of the working from home. Furthermore, social effects include an increase in neighbourliness *and* an increase in neighbour quarrels, and the increased use of local facilities such as functional greenery (i.e., parks) and open space (Sheffield Hallam University, 2021). Economic effects include an extremely large shrinkage in employment in sectors encompassing a third of all employees in the Netherlands, and a general shrinkage of the GDP. A quick analysis of the socioeconomic effects caused by the Corona crisis shows that these almost all pertain to the person-and-lifestyle factors, which have been shown to represent the motivational factors and constraints which play a vital role in determining housing preferences. Solely the general shrinkage of GDP does not reside in the person-and-lifestyle factors, as this effect represents a macro-level constraint. It might, however, effect household's their combined income and as such cause a micro-level constraint. In conclusion, the socioeconomic effects of the Corona crisis are all integrated in the motivational factors and constraints, which paragraph 4.2 has shown to be the cause of change in housing preferences. As such, it is probable that the Corona crisis instigated change in housing preferences.

4.3.2 The attributes of interest for this thesis

For researching *what* the anticipated change in housing preferences is, Molin et al. (1996, p. 303) explain that first the 'attributes of interest' need to be identified. They elaborate that "this involves an attempt to select those attributes that influence the consumer choice behaviour under investigation" (p. 303). Since the consumer choice behaviour under investigation in this thesis is the changed housing preferences due to Corona, the attributes of interest are thus the ones which are important for determining a housing preference, *and* which are impacted by the Corona crisis.

Image 4.4 shows where socioeconomic effects reside in the motivational factors and constraints and presents a hypothesis of how preferences are influenced by this, i.e., which attributes are implicated. The fieldwork part of this research, namely the survey, focusses on these aspects. The survey can be found in appendix B.

As can be seen, 'working from home' is an effect originating in the person-and-lifestyle factor of 'occupation'. It generates the need for the utility of a *focus space* and impacts preferences of attributes residing in the 'dwelling' bundle. Working from home also implicated the 'social environment' since being home so much increases the daily encounters with the direct neighbours. Also residing in the 'occupation' factor are the prospected burnouts, which generate utility for peace and quiet, and thus impact the attribute bundles of both the 'dwelling' and the 'living environment'. The general mental health problems caused by the Corona crisis reside in the factors of 'coping' as well as in 'biological factors' and likewise impact the attribute bundles of both the 'dwelling' and the 'living environment'. The dwelling is impacted since it increases in importance as a facilitator of rest, while the living environment might facilitate in greenery, which has been proven to be beneficial when suffering from mental health problems. Both the burnouts and the mental health problems might also generate an increased need for the attributes pertaining to the 'social environment' as people increasingly need support which social structures might provide. The increase in neighbourliness originates in 'coping', which generates the increased need for the utility of a tighter bond with the neighbours or neighbourhood. Whether the need is receiving (needing help) or giving (aiding neighbours) does not matter. In contrast, the increase in neighbour quarrels also originates in 'coping', albeit that the outcome of how people cope is now opposite. As mentioned, this effect is also related to 'occupation', as the inconvenience of working from home can be a cause for higher

stress levels with which people have to cope. The shrinkage of employment and GDP impact the 'combined income' and thus impact all attributes through constraining household's housing possibilities. However, as some sectors profit generously from the Corona crisis, some households might experience an increase in 'combined' income, and accordingly experience increased housing possibilities which, once more, impacts all attribute bundles.

The analysis shows that nearly all effects of the Corona crisis impact housing preferences through influencing person and lifestyle factors i.e., motivation factors, as is normal for changing housing preferences. However, the exception is the increased use of functional greenery. Due to the closing of amenities such as shops and businesses (including hospitality) in the lockdown, other types of facilities such as functional greenery have been used more intensively. This is a direct effect of the Corona crisis. Because this effect resides in another attribute instead of in a motivation factor, which normally cause changing preferences, the effect is expected to be of temporary nature. In other words, when shops and businesses reopen, the increased use of functional greenery will decrease again. However, since the expectation is there will be some lasting changes in people their lifestyles, as some might have discovered liking their new lifestyles, this might permanently cause an increased use of functional greenery relative to pre-crisis levels. Additionally, since functional greenery is also used for mental health problems, which are expected to increase and which indeed originate in the motivation factors, the expectation is this will further increase the use of functional greenery relative to pre-crisis levels.

Lastly, the analysis shows that all attribute bundles are affected, except for the physical characteristics of the living environment. These attributes, earlier described as 'diffuse', seem to not have been impacted much by the Corona crisis.

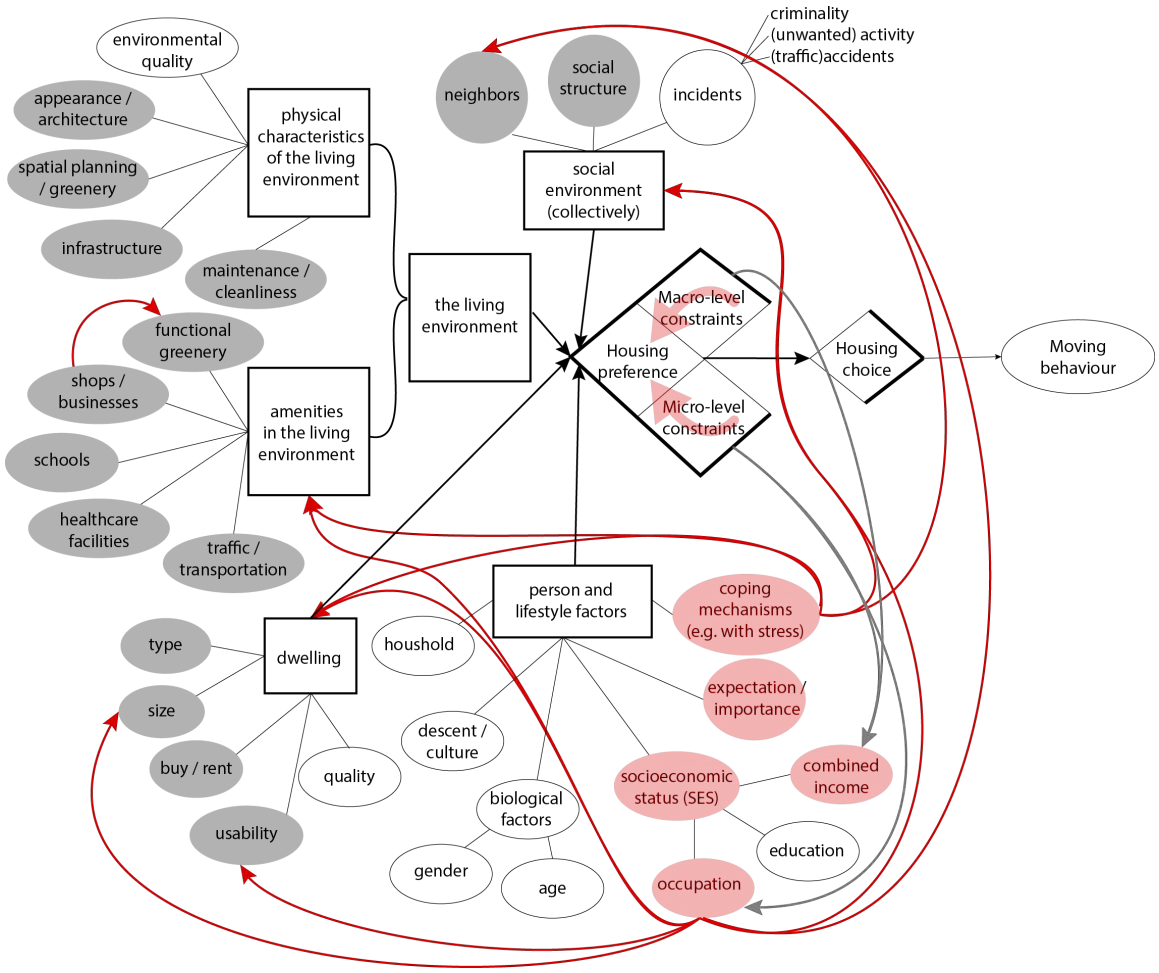


Image 4.4: Analysis of the preference-shaping attributes which are impacted by socio-economic effects of the Corona crisis. The motivational factors and constraints which are affected by the Corona crisis (red) impact certain attributes (grey) as explained in paragraph 4.3.2.
(Adapted from Janssen et al., 2006, p. 2)

Part II
Research Design & Execution

The following chapters elucidate the research design and execution hereof. The first chapter explains the research design and methods used to gather data and answer the research question. The second chapter describes the execution of the data collection and analysis hereof.

5. Research design

This chapter describes the research design and methods used to gather data and answer the research question. First, paragraph 5.1 explains what type of study this thesis is, and what type of data is utilized. Next, the research method which this thesis uses is explained. Furthermore, the instruments through which the required data is gathered are described. Lastly, the way the data is managed is explained, and ethical consideration which have been taken into account are reported.

5.1 Type of study & data

5.1.1 Type of study

The study is an evaluating and explorative study. The expectation is change has taken place in housing preferences, and this possible change is researched. The focus is on *what* change has possible taken place, and *why* this change took place in order to better understand housing preference behavior. As such, findings are *evaluated* for revealing current or new trends from the demand side. The study *explores* whether these revealed trends are expected to be structural or temporary of nature.

The logic of inquiry used is inductive complemented by retroductive (Blaikie & Priest, 2019) First, using inductive logic of inquiry, data has been collected on the motivations for attributes and the constraints shaping housing preferences and which of these are impacted by the Corona crisis. The result was descriptive data, which was the foundation for quantitative information gathering used in the retroductive logic of inquiry, which was used to "discover underlying mechanisms to observed regularities" (Blaikie & Priest, 2019, p. 84). In other words, possible trends were researched through *quantitative* data gathering. In addition, the reasons behind the discovered trends were identified through *qualitative* data gathering. Whether these trends are expected to be structural or temporary of nature was explored through quantitative data gathering and by synthesizing all previous findings.

5.1.2 Type of data

The data used in this thesis is thus quantitative as well as qualitative. Both existing data as well as new data was incorporated in the research. That is, existing trends in housing preferences from before the Corona crisis have been compared to newly gained data gathered during the crisis. Reason for this is that the research focusses on a very recent development so much needed data has not been gathered yet. Additionally, findings needed to be corrected for trends which were already occurring so that the consequences of the Corona crisis could be distinguished. Hence, newly gained data had to be compared to existing data in order to determine the level of the discovered change.

All in all, mainly primary and tertiary data were used. The primary i.e., the newly gained data has been compared to trends which have been determined by third parties.

5.1.3 Data timespan

The research is a retrospective panel design; "a measurement is made at the present time and the group is asked to recall its position on the variable at an earlier time, assuming the effect of some events in between" (Blaikie & Priest, 2019, p. 228). Timewise, the research is a longitudinal 'before-after design', i.e. "two cross-sectional studies at different points in time" (Blaikie & Priest, 2019, p. 229).

5.2 Research method & data collection instruments

5.2.1 Research method

This thesis researched stated preferences using mixed methods. Specifically, it utilized the Sequential Explanatory Strategy to research the changes in preferences. Terrell (2012) elucidates this strategy contains a *quantitative* research component followed by a *qualitative* research component after which an *interpretation* is made.

The quantitative component researched *cause and effect*, in this case the Corona crisis and its effect on housing preferences (evaluating). Hence, quantitative data gathering was used to research *what* previous and current housing preferences are, and which possible changes herein took place.

The qualitative component researched "meaning based on observation or personal experience, ultimately combined into a broad pattern or understanding" (Terrell, 2012, p. 7). Hence, in this thesis, qualitative data gathering was used to research the *why* behind the changes in housing preferences (evaluation).

Finally, following the Sequential Explanatory Strategy, the qualitative and quantitative component were combined, and an *interpretation* was made concerning the revealed current and new trends (exploratory). As such, a synthesis of the quantitative and qualitative data gathered, combined with the trend analyses, *explored* whether the changes are temporary or structural of nature.

Image 8.1 shows the general steps of the Sequential Explanatory Strategy.

Image 5.1: The steps of the Sequential Explanatory Strategy. (Adapted from Terrell, 2012)

The research is thus quantitative-led and is complemented by qualitative research. As such, this study has been performed using mixed methods i.e., a combination of numerical and non-numerical data has been used. This methodological triangulation ensured the overall validity.

5.2.2 Data collection instruments

Market research

Market research has been used to study the previous housing preferences and trends.

Survey – quantitative questions

A survey has been executed to study the housing preferences by researching the attributes of interest and the socioeconomic changes which a respondent experienced. The survey researches this by means of a questionnaire.

Literature research in chapter 4 determined the attributes of interest which are, as explained in paragraph 4.3.2, the attributes of importance for determining a housing preference *and* which are impacted by the

Corona crisis. Since the socioeconomic changes which a respondent experienced were expected to be the cause for possible change in housing preferences, these have been researched as well.

As such, people were asked in what way their socio-economic circumstances have changed due to Corona. Additionally, they were asked to express what their housing preference is now, and whether this preference has changed since the crisis. Through these questions, the utility generating housing attributes of interest were discussed. Lastly, it was measured whether people planned to- or had acted upon those (changed) preferences. In other words, had they been actively looking for a new dwelling?

All in all, three types of data have been collected i.e., demographic characteristics, stated housing preferences and reported behavior. The survey thus covered the significant questions according to Blaikie and Priest (2019). The survey has been tested before execution.

Survey – qualitative questions

Complementing the quantitative research part of the survey, the questionnaire contained a qualitative part as well in the form of open-ended questions. Its objective was to study the reasons behind uncovered changes in preferences. Coulter and Scott (2015, p. 367) stress the importance of incorporating open-ended questions in large scale surveys, as their research showed how motivates for changing housing preferences vary substantially. They further elucidate that "Disentangling people' s specific motives for desiring and making residential moves requires a detailed coding frame, indicating that open-ended questions may be a particularly valuable way to gather data on mobility motivations" (Coulter & Scott, 2015, p. 367, referring to Niedomysl & Malmberg, 2009).

Image 5.2 illustrates which techniques are used in which part of the study.

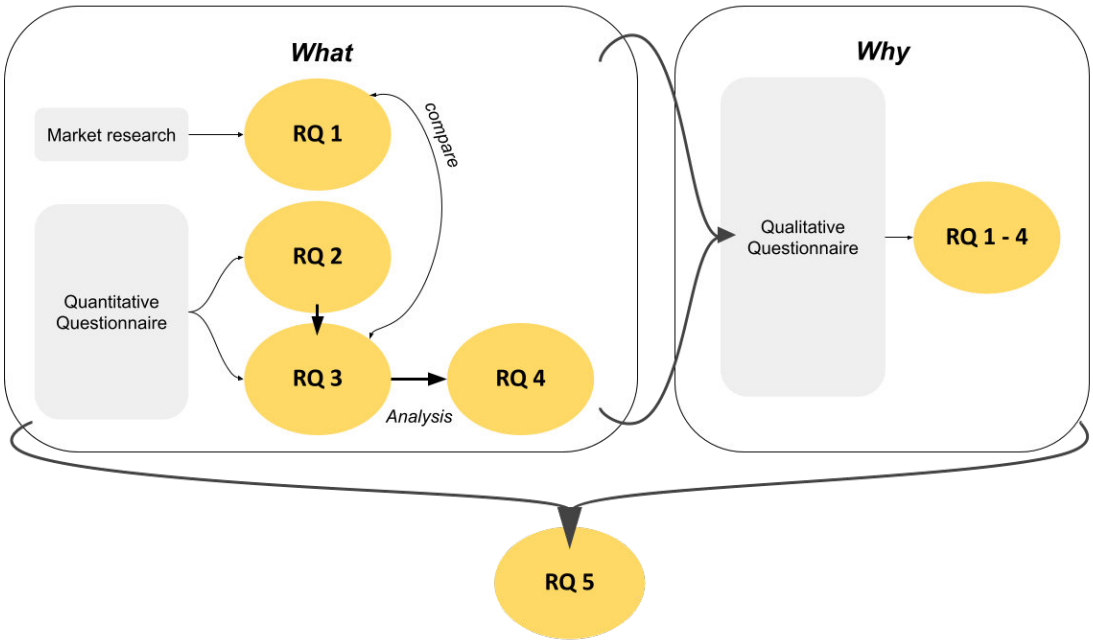
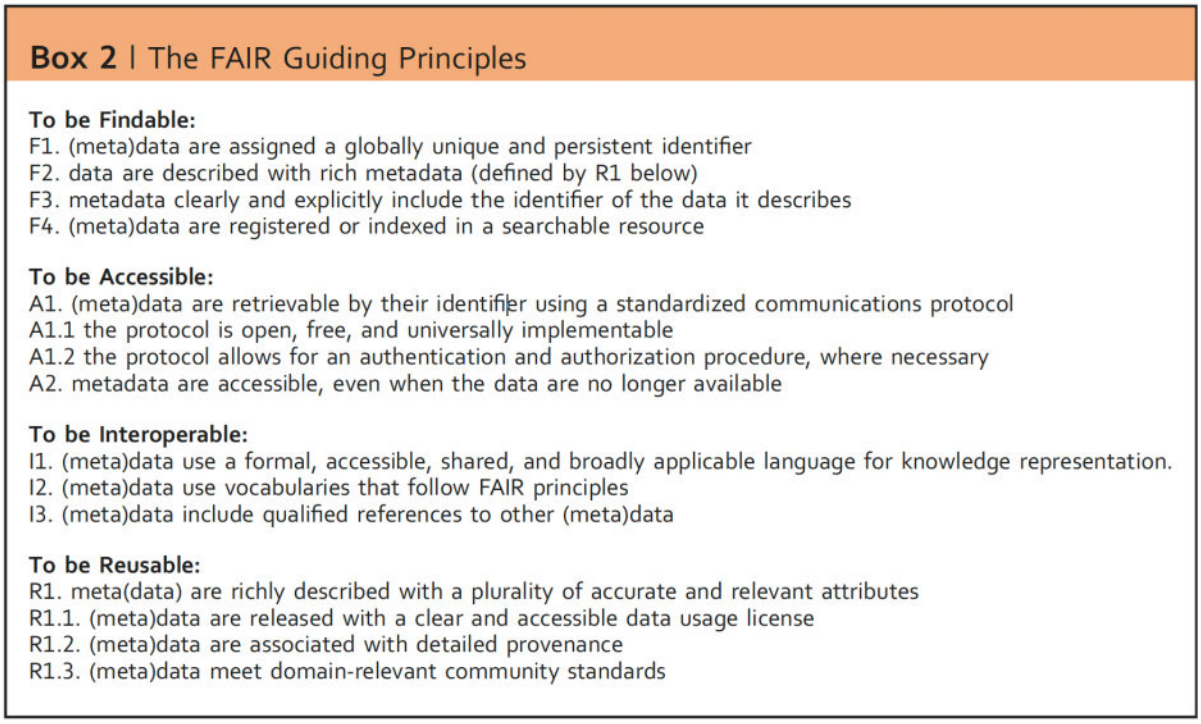


Image 5.2: Research techniques utilized in the thesis.

5.3 Data Plan

In order to improve the reusability of the data gathered and obtained in this thesis, the FAIR guiding principles for scientific data management have been applied. These guiding principles have as goal to "enhance[e] the ability of machines to automatically find and use the data, in addition to supporting its reuse by individuals" (Wilkinson et al., 2016, p. 1). This is done by enhancing data its *Findability, Accessibility, Interoperability* and *Reusability*. These FAIR Guiding Principles are shown in image 8.5.



Box 2 | The FAIR Guiding Principles

To be Findable:
F1. (meta)data are assigned a globally unique and persistent identifier
F2. data are described with rich metadata (defined by R1 below)
F3. metadata clearly and explicitly include the identifier of the data it describes
F4. (meta)data are registered or indexed in a searchable resource

To be Accessible:
A1. (meta)data are retrievable by their identifier using a standardized communications protocol
A1.1 the protocol is open, free, and universally implementable
A1.2 the protocol allows for an authentication and authorization procedure, where necessary
A2. metadata are accessible, even when the data are no longer available

To be Interoperable:
I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
I2. (meta)data use vocabularies that follow FAIR principles
I3. (meta)data include qualified references to other (meta)data

To be Reusable:
R1. meta(data) are richly described with a plurality of accurate and relevant attributes
R1.1. (meta)data are released with a clear and accessible data usage license
R1.2. (meta)data are associated with detailed provenance
R1.3. (meta)data meet domain-relevant community standards

Image 5.3: The FAIR Guiding Principles.
(Wilkinson et al., 2016, p. 4)

This thesis ensured its FAIRness by contributing to Dataverse, which supports 'institutional research data repositories', including the TU Delft repository. As such, a formal citation and a Digital Object Identifier (DOI) has been created, and the data has been made *Findable* through this repository upon completion.

As Wilkinson et al. (2016, p. 5) elucidate, "this [DOI] resolves to a landing page, providing access to metadata, data files, dataset terms, waivers or licenses, and version information, all of which is indexed and searchable". This al contributes to the data's *Findability, Accessibility* and *Reusability*.

The data which has been uploaded to the repository include this final P5 thesis report and complementing final P5 thesis presentation, and the Tabulation Publication encompassing all performed analysis. The graduation plan and questionnaire has been included in the appendix of this final P5 report.

Interoperability has been ensured through amongst others a strict use of the APA referencing style for all operationalized data.

5.4 Ethical Considerations

In order to "[protect] the rights, dignity and welfare of those who participate in this research as well as others who may be affected by it", research ethics have been taken into consideration (Saunders, Lewis, & Thornhill, 2016, p. 242). In general, the study has been carried out respectfully, objectively and with integrity. Harm and discrimination were avoided, and confidentiality and anonymity has been safeguarded. (Saunders et al., 2016)

Especially for the execution of the survey, the ethical execution of those has been of utmost importance. The following principles, as defined by Saunders et al. (2016, pp. 244-245) have been key in executing the research.

"The privacy of those taking part;
The voluntary nature of participation and right to withdraw;
The informed consent of those taking part;
Ensuring confidentiality of data and maintenance of anonymity of those taking part;
The responsibility in the analysis of data and reporting of findings;
The compliance in the management of data."

In compliance with Terrell (2012, p. 16) who emphasized that "participants must understand purpose and procedures of the study" and "must understand that they have the right to a copy of the results", participants were informed beforehand of the first, and have been granted the opportunity to request a copy of the results at the end of the survey. Furthermore in compliance with Terrell (2012, p. 16), it has been assured that "writing is free of bias towards any group (e.g., age, ethnicity, sexual orientation, race, gender, etc.)". This also applies to the survey.

Lastly, as Terrell (2012, p. 16) states, "the details of the study must be carefully explained within the actual report so as to allow readers the opportunity to judge the ethical quality of the study for themselves".

6. Data collection & Analysis

This chapter first explains how and what data has been collected using the tools as described in the previous chapter. Next, the preparation of this data for analysis is explained, and the received respondent group is evaluated. The chapter finishes with describing the analysis of the data. This chapter thus explains how the research results, which are discussed in the next chapter, have been obtained and how they should be interpreted.

6.1 Data Collection

Quantitative and qualitative data has been gathered simultaneously. As such, the targeted and gathered respondent group is similar in both cases. The following paragraphs explain the collection of the data.

6.1.1 Gathering respondents

As explained in chapter one, this graduation research has been executed for Dura Vermeer. This provided the opportunity to gather respondents through a third party, which enabled reaching a large number of potential respondents pertaining to the target group and living anywhere in the Netherlands. The third party in question was NieuwbouwNL, a company specialized market research, CRM and online communication with a focus on real estate, housing preferences and target group determination.

The tool to execute the survey was an online questionnaire. Invitations to the questionnaire were distributed to subscribers of the digital NieuwbouwNL newsletter. The NieuwbouwNL newsletter is an informative tool for people who are interested in acquiring a newly built dwelling. As such, the respondents have all shown an interest into newly built dwellings through their newsletter subscription. This means that the respondents are oriented to the newly built owner-occupied housing market.

The survey in progress for three weeks and was online from March 25 till April 14, 2021. In total 50.000 of NieuwbouwNL their newsletter subscribers received an invitation through email, which contained a link to the survey. As such, the data has been gathered in a semi-natural setting. The invitation can be found in appendix A.

The research was limited in its choice of the respondents. There was no possibility to target respondents in sending the invites. Additionally, the parameters of the approached population are unknown. Hence, respondents were filtered through built-in checks in the questionnaire, allowing to determine whether respondents complied to the set conditions. As such, qualitative control took place, and all used respondents satisfy the conditions.

6.1.2 Required respondents

As mentioned, the target group are people with an inclination to move and to participate in the Dutch owner-occupied housing market. As mentioned in paragraph 1.3 (demarcation), only people who are actively looking were required for the survey, since this ensured the studied preferences are *stated* preferences and not *ideal* preferences. The set conditions to which respondents were required to comply and for which the questionnaire contained built-in checks were thus *being inclined to move*, ánd *being actively looking* for a dwelling on the *owner-occupier housing market*. The built-in checks were certain 'selection questions' to determine whether a respondent indeed fit the required criteria.

Since the household composition and the place of residence (living in an urban area or in the countryside) were hypothesized to be important variables in whether change in housing preferences appeared, respondents were categorized by these factors. This enabled the analysis of the differences in changing

housing preferences within these various subgroups in research question three. For doing so, each subgroup needed to contain at least thirty respondents. This was necessary in order to be in compliance with the central limit theorem, which states that samples of thirty and more have "a normal distribution and a mean equal to the population mean, and a standard deviation" (Field, 2018, p. 111). By complying to this theorem, differences between subgroups could be examined for statistical significance. The survey was concluded when enough respondents had been acquired for each subgroup.

For determining the subgroups, the CBS classification was utilized, as shown table 6.1. This classification describes household compositions as being either a one-person household, a multi-person household with children or a multi-person household without children. The place of residence is described in terms how urban a place is based on the surrounding address density of a dwelling by means of an urbanity class, i.e., the level of urbanity code. The urbanity code ranges from highly urban to not urban at all.

a_1p_hh	One Person Household [number]	*A private household consisting of one person.*			
a_hh_z_k	Households without Children [number]	*Multi-person households without children, i.e. unmarried couples without children, married couples without children and other households.*			
a_hh_m_k	Households with Children [number]	*Multi-person households with children, i.e. unmarried couples with children, married couples with children and single-parent households.*			
ste_mvs	Level of Urbanity [code]	*Based on the surrounding address density, each neighborhood, district or municipality has been assigned an urbanity class. The following classification has been used:*	1 Very highly urban	≥ 2500	addresses per km^2
			2 Highly urban	1500 – 2500	addresses per km^3
			3 Moderately urban	1000 – 1500	addresses per km^4
			4 Hardly urban	500 – 1000	addresses per km^5
			5 Not urban	< 500	addresses per km^6

Table 6.1: The utilized CBS classification of household composition and urbanity of place of residence. (StatLine publicaties, 2020b, pp. 10-11; 25)

6.1.3 Received respondents

Out of the 50.000 newsletter subscribers of NieuwbouwNL who received the questionnaire, 2719 responded. Since some people started the questionnaire but did not fill it in, 248 'empty' responses were deleted, and 2471 responses were kept. This means the survey has a total response rate of 4.94%. Even though this is perceived as quite a low response rate, this is not unusual since "response rates to surveys have declined dramatically over time" (Sax, Gilmartin, & Bryant, 2003, p. 423). Reasons for this include the large amount of email and spam, as well as the sheer number of requests for participating in surveys people continuously receive. Due to this, many invitees might not have seen the email in the first place or might have survey-fatigue and hence will not have participated (Sax et al., 2003).

The response rate of 4.94% correspondingly means that the total nonresponse to the survey is 95.6%. Sax et al. (2003, p. 411) explain nonresponse bias arises when not all invitees to the survey are willing or capable to participate in it. This would result in differences between the respondents to a survey and the ones who did not participate "in terms of demographic or attitudinal variables". Nonresponse bias is ruled out when characteristics of the respondent group are representative of the group not participating in the survey. However, since, as explained in paragraph 6.1.1, the parameters of the approached population are unknown, nonresponse bias cannot be ruled out in this research. Yet, as likewise explained in paragraph 6.1.1, as a response to the unknown population parameters, respondents were filtered through built-in checks in the questionnaire, which allowed to determine whether respondents complied to the set conditions. As such, not knowing the population parameters is overcome by making a strict selection what results in a firmly defined group of respondents with distinct characteristics. The high nonresponse rate, or low response rate for that matter, thus do not impact the validity of the research results, as the results relate to the demarcated group and not to the total invited sample.

6.2 Data preparation

6.2.1 Quantitative data preparation

Since the research was quantitative-led and the qualitative data is thus a complementation to this, the biggest part of the data preparation concerned preparing the quantitative dataset. Respondents were filtered based on the quantitative data, and additionally, it has been examined to what extent conclusions could be extrapolated based on the quantitative data. The following paragraphs explain the steps taken in the quantitative data preparation.

Separating data

The data has been delivered as an anonymized dataset on the basis of postal codes (PC6) which the respondents entered in the questionnaire. Since the data initially included email addresses of respondents who requested a copy of the results after completion of the research, these kinds of personal data had to be separated from the original file. Respondents received a number, and the personal data has been saved separately in a password protected file in a secure environment of Dura Vermeer.

Linking data

As explained in the previous paragraph, respondents were categorized by their household composition and level of urbanity of the place of residence. In order to categorize the respondents on their level of urbanity, the 'level of urbanity code' together with the municipality name and neighbourhood has been attached to the respondents' cases. The data was matched to the postal codes (PC6) by means of a separate .sav file which is a merge of the file "pc6-gwb2020" (CBS, 2020b) and "kwb-2020.xls" (StatLine publicaties, 2020a). The file needed to contain solely unique postal codes for the merge, and thus duplicates were removed.

Additionally, in order to discern the proportion of the respondents living in the Randstad, a file containing amongst others the various municipalities and the provinces to which they belong has been added to the main data file (CBS, 2020a). In this study, the definition of the Randstad as "a conglomerate of large and midsize cities" which comprises of the provinces North-Holland, South-Holland, Utrecht and Flevoland, has been adhered to (Representation of the Randstad Region in Brussels, 2019, p. 3).

Filtering responses

Within the total received sample (n=2471), some respondents did not meet the selection criteria, as they were either not in search of a new dwelling (n=142), they did not search a dwelling in the owner-occupier housing market (n=57), and/or they were not actively looking (n=292). This means that a fifth of the respondents (19.9%) did not meet the selection criteria. These respondents were excluded from the analyses.

Furthermore, it was key to know a respondents' household composition and the level of urbanity of their place of residence. If it was not possible to determine the subgroup to which a respondent belonged, the analysis for research question three could not be performed. Since a fair comparison between the various sub questions was required for answering the main question, respondents who did not provide this information were thus, likewise, excluded in all analyses. This complies to twenty-nine people who did not disclose their postal code. Furthermore, this complies to 522 respondents who finished the survey *only partly*, and thus did not disclose either one or more of the selection criteria as discussed (n=293) or did not disclose their household composition (n=229). As such, the survey encompassed 522 *item nonrespondents* which were crucial for the analysis, i.e., crucial item nonresponse was 21.1% (Sax et al., 2003). It is assumed that the high ratio of item nonresponse is caused by the lengthy nature of the questionnaire. This assumption is corroborated by the fact that item nonresponse occurred gradually throughout the survey. Would a certain question have been the cause, then a peak of item nonresponse at a specific point in the survey would have been observable. This was, however, not the case.

Other respondents who finished the survey only partly are included in this sample as long as they met the selection criteria and provided the key information as mentioned previously, for their input is valuable for the questions they did answer. This means that the total number of respondents included in an analysis might slightly vary between questions. The filtering left 1458 useful respondents (59.0% of the total respondent group).

Adjusting the classification

Classifying the 1458 useful respondents by their household composition and level of urbanity of the place of residence resulted in the subgroups as shown in table 6.2. Seeing as it was difficult to find the required number of at least thirty respondents living in the lower-urbanity level areas, urbanity codes four and five have been combined in order to comply to the required minimum respondents in each subgroup. This resulted in the response as shown in table 6.3

RECEIVED USEABLE RESPONDENTS PER SUBGROUP [5 LEVELS]

		Household Composition			
		One person household	Multi person household without children	Multi person household with children	*Total*
Level of Urbanity [Code]	1 Very highly urban: ≥ 2500 addresses per km^2	121	268	121	510
	2 Highly urban: 1500 – 2500 addresses per km^2	73	239	124	436
	3 Moderately urban: 1000 – 1500 addresses per km^2	34	142	92	268
	4 Hardly urban: 500 – 1000 addresses per km^2	25	91	44	160
	5 Not urban: ≤ 500 addresses per km^2	17	55	12	84
	Total	270	795	393	1458

Table 6.2: Received useable respondents per subgroup (respondents belong to the target group and are people who are actively looking for a new dwelling in the Dutch owner-occupied housing market).

RECEIVED USEABLE RESPONDENTS PER SUBGROUP [4 LEVELS]

		Household Composition			
		One person household	Multi person household without children	Multi person household with children	*Total*
Level of Urbanity [Code]	1 Very highly urban: ≥ 2500 addresses per km^2	121	268	121	510
	2 Highly urban: 1500 – 2500 addresses per km^2	73	239	124	436
	3 Moderately urban: 1000 – 1500 addresses per km^2	34	142	92	268
	4 Hardly to not urban: ≤ 1000 addresses per km^2	42	146	56	244
	Total	270	795	393	1458

Table 6.3: Received useable respondents per subgroup (respondents belong to the target group and are people who are actively looking for a new dwelling in the Dutch owner-occupied housing market). Level of urbanity [code] 4 and 5 combined.

Representativeness

As is evident in table 6.3, the number of received respondents differs substantially between subgroups. A comparison of the received number of respondents per subgroup to the total number of households living in each level of urbanity in the Netherlands shows whether the received sample is representative for these characteristics to the Dutch population. And thus, whether the distribution of respondents between the subgroups is normal or whether the sample contains an excess of certain households and/or level of urbanities. Additionally, utilizing a sample containing residents which are in number representative to the Dutch housing market in term of their household composition and where they live, would enable the

generalization of conclusions seeing as the owner-occupied housing market is well distributed over the various levels of urbanity (CBS, 2020c).

The comparison, however, indicates that the received sample is *not* representative in number to the Dutch population for the specified characteristics. Table 6.4 presents the total number of households living in each level of urbanity in the Netherlands. The data has been gathered from the CBS dataset Wijken en Buurten 2020, and the numbers have for exactitude been determined on the neighborhood level, which was the most detailed scale available (StatLine publicaties, 2020a). The smallest subgroup is indicated in red. Following from table 6.4, table 6.5 shows the minimum number of respondents per subgroup required for the research being representative to the Dutch population, given that the smallest sample should, as explained in paragraph 6.1.2, contain at least thirty respondents which is necessary for the analyses being statistically significant. This smallest sample is likewise indicated in red. Subsequently, table 6.6 presents the required number of respondents per subgroup for representativeness, adjusted for the size of the total received useable sample (n=1458) which has been discussed in paragraph 6.2.1. As such, a comparison on the distribution of the respondents per subgroup between the sample received and the sample required for representativeness, can now be made.

HOUSEHOLDS PER URBANITY LEVEL IN THE NETHERLANDS

Level of Urbanity [Code]	Household Composition: One person household	Multi person household without children	Multi person household with children	*Total*	
1 Very highly urban: ≥ 2500 addresses per km^2	1178055	507385	545050	2230490	*28%*
2 Highly urban: 1500 – 2500 addresses per km^2	796440	574915	690695	2062050	*26%*
3 Moderately urban: 1000 – 1500 addresses per km^2	445435	429290	509325	1384050	*17%*
4 Hardly urban to not urban : ≤ 1000 addresses per km^2	659745	791880	870475	2322100	*29%*
Total	3079675	2303470	2615545	7998690	*100%*
	39%	*29%*	*33%*	*100%*	

Table 6.4. Number of households living in each level of urbanity in the Netherlands. (Based on StatLine publicaties, 2020a; StatLine publicaties, 2020b)

REQUIRED HOUSEHOLDS PER URBANITY LEVEL FOR A REPRESENTATIVE SAMPLE

Based on the smallest required sample size of thirty, n=559

Level of Urbanity [Code]	Household Composition: One person household	Multi person household without children	Multi person household with children	*Total*	
1 Very highly urban: ≥ 2500 addresses per km^2	82	35	38	156	*28%*
2 Highly urban: 1500 – 2500 addresses per km^2	56	40	48	144	*26%*
3 Moderately urban: 1000 – 1500 addresses per km^2	31	30	36	97	*17%*
4 Hardly urban to not urban : ≤ 1000 addresses per km^2	46	55	61	162	*29%*
Total	215	161	183	559	*100%*
	39%	*29%*	*33%*	*100%*	

Table 6.5. Required number of households per level of urbanity for the sample being representative to the general Dutch population (Based on StatLine publicaties, 2020a; StatLine publicaties, 2020b)

REQUIRED HOUSEHOLDS PER URBANITY LEVEL FOR A REPRESENTATIVE SAMPLE

Adjusted for the total received sample size, n=1458

Level of Urbanity [Code]	Household Composition: One person household	Multi person household without children	Multi person household with children	*Total*	
1 Very highly urban: ≥ 2500 addresses per km^2	215	92	99	407	*28%*
2 Highly urban: 1500 – 2500 addresses per km^2	145	105	126	376	*26%*
3 Moderately urban: 1000 – 1500 addresses per km^2	81	78	93	252	*17%*
4 Hardly urban to not urban : ≤ 1000 addresses per km^2	120	144	159	423	*29%*
Total	561	420	477	1458	*100%*
	39%	*29%*	*33%*	*100%*	

Table 6.6. Required number of households per level of urbanity for the sample being representative to the general Dutch population, adjusted for the received total sample size (n=1458) (Based on StatLine publicaties, 2020a; StatLine publicaties, 2020b)

When comparing the numbers of respondents *required* in each subgroup to the numbers of respondents *received* per subgroup as determined (table 6.6), it becomes clear that the received sample is disproportionally represented. Table 6.7 shows the ratio of the received respondents to the respondents required (in percentages). As is apparent, the multi person households without children are vastly *over*represented, especially in the higher urbanity levels. Furthermore, the higher the level of urbanity is of a household's place of residence is, the more this subgroup is overrepresented. The most overrepresented subgroup are the multi-person households without children living in urbanity level one: this subgroup is three times more often present in the received respondent group as was required. The one person households and the households living in the lowest urbanity level are least represented in the received sample and are mostly *under*represented.

RATIO RECEIVED AND REQUIRED HOUSEHOLDS PER URBANITY LEVEL

Level of Urbanity [Code]	Household Composition: One person household	Multi person household without children	Multi person household with children
1 Very highly urban: ≥ 2500 addresses per km^2	56%	290%	122%
2 Highly urban: 1500 – 2500 addresses per km^2	50%	228%	98%
3 Moderately urban: 1000 – 1500 addresses per km^2	42%	181%	99%
4 Hardly urban to not urban : ≤ 1000 addresses per km^2	35%	101%	35%

Table 6.7: Ratio of the received respondents (useable, n=1458) to the respondents required (in percentages) (Based on StatLine publicaties, 2020a; StatLine publicaties, 2020b)

A possible explanation for the disproportionate representation is that the invitees for the survey, i.e., the newsletter subscribers of NieuwbouwNL, do not embody a representative sample of the Dutch population for the determined criteria (*household composition* and *urbanity of the place of residence*). As mentioned, numbers concerning this are unavailable, but the expectation is that the newsletter subscribers of NieuwbouwNL mainly live in the Randstad, and thus mainly live in the higher urbanity levels. Additionally, it is plausible that the wish for moving is not similarly as big in each specified subgroup. Manting, de Groot, and Boschman (2008) state that the inclination to move is higher in the Randstad than elsewhere in the Netherlands. Since the survey only targeted people with an inclination to move, this furthermore explains why respondents are overrepresented in the higher urbanity levels and hence do not embody a representative sample of the Dutch population for the selection criteria.

It can thus be concluded that the target group, i.e., people with an inclination to move and who (aspire to) participate in the Dutch owner-occupied housing market, differentiate from the average Dutch population with regard to the household composition and the level of urbanity of the place of residence. Since the ratios differ too substantially for weighing conclusions cannot be generalized to the Dutch population. Nevertheless, the received sample is substantially large enough for extrapolating conclusions to its target group, i.e., people with an inclination to move and who (aspire to) participate in the Dutch owner-occupied housing market.

The predisposition towards newly built

A limitation concerning the respondent group is their predisposition to the newly built housing market. This limitation is further discussed in paragraph 14.8.2.

6.2.2 Qualitative data preparation

As explained, qualitative open-ended questions were posed complementary to the quantitative data gathered. In total, 598 respondents provided qualitative input supplementary to the quantitative input. All qualitative data gathered has been taken into account in the analyses, regardless of whether the respondents provided the key information as discussed in paragraph 6.2.1. This has been done since all respondents who provided qualitative input meet the selection criteria and their input is thus valuable. Additionally, since the qualitative data is *complementing* the quantitative data but is not utilized itself in comparative analyses, it was not necessary to disregard part of it. As a consequence, the number of respondents who provided qualitative input might differ from the number of respondents having provided quantitative input. Additionally, while all other questions of the survey were compulsory, providing qualitative input was always optional. This has influenced gathered response as well.

6.3 Data Analysis

6.3.1 Quantitative data analysis

The quantitative data analysis starts with descriptive analyses. The numerical variables are described using the mean and standard deviation, whereas the categorical variables are described using percentages. Ordinal categorical variables are described using percentages and the median, which is the middle score when the data is ordered on magnitude (Field, 2018).

Relationships between categorical variables have been analyzed using the Chi-2 test. For this, the variable which is suspected to be the cause for change is cross tabulated with the variables researching whether change in preferences has taken place. Additionally, crosstabulations have been used to describe the relationships between categorical variables with many categories.

6.3.2 Qualitative data analysis

The qualitative data has been analysed using the framework method (Dudovskiy, 2018). First, the data was categorized on whether change happened 'because of Corona' or 'since Corona'. Next, these groups of qualitative responses were analyzed each. Following the method, the explanations provided were read closely through which familiarization took place. Next, the data was coded i.e., categorized on key words. Through this, the qualitative data was quantified, and analysis was made possible. As such, this coding enabled the deduction of themes, patterns and links. This was done through analyzing the frequencies of the usage of certain words and phrases. Additionally, the findings of this qualitative research which aimed to answer the 'why' question were compared to the quantitative data answering the 'what' question. This last step furthermore enabled the deducted of themes, patterns and links. The data and its findings have been presented in part III of this thesis.

Part III
Research Results

The following chapters present the results of the market research, and the results after data gathering and analysis of the quantitative and qualitative research conducted by means of the questionnaire. Results The first chapter provides insight into the gathered respondent group, after which each subsequent chapter provides the answer to a sub question. The data of the questionnaire has been anonymized. Since the questionnaire has been conducted in Dutch, if necessary, quotes, graphs and tables have been translated from Dutch to English. All analyses on which the findings are based can be found in the Tabulation Publication in the appendix.

7. Characteristics of the sample

This chapter provides insight into the gathered respondent group by reporting their demographics and their current housing situation. Through comparing the demographic characteristics of the respondent group to these of the Dutch population, understanding is obtained of in what way the group is unique in relation to the average population. Furthermore, knowledge is gained concerning the current housing situation of the respondents, which is the baseline measurement of this research and imperative for understanding their housing preferences – and changes hereof – for a next dwelling.

7.1 Demographics of the respondent group

7.1.1 Gender and Age

An initial analysis of the respondent group (n=1458) shows that 56.4% is woman. 41.6% is man, and 2% would rather not say (Image 7.1). The respondents were between nineteen and eighty-six years old. The distribution of the respondent's ages is bimodal, as can be seen in image 7.2. The modes are split at the *antimode*, which is the value with the lowest number of entries, in this case 40. The mean of the first modus, which encompasses 42.1% of the total sample, is 29.7 years. People in the second modus, which includes 57.9% of the sample, are on average 58.0 years old. The bimodal distribution corresponds with the literature, which states people wish to move i.e., experience change in housing preferences when they experience a life-course event (Coulter & Scott, 2015). The first mode corresponds with the life-course event of finding a partner and moving in together or starting a family. The second modus coincides with children coming of age and moving out of their parents' dwelling, which marks a life-course event for the parents as well.

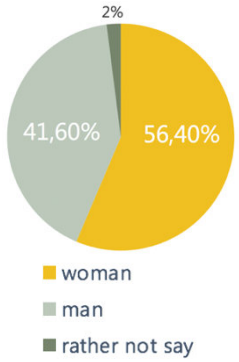


Image 7.1: Gender within the respondent group

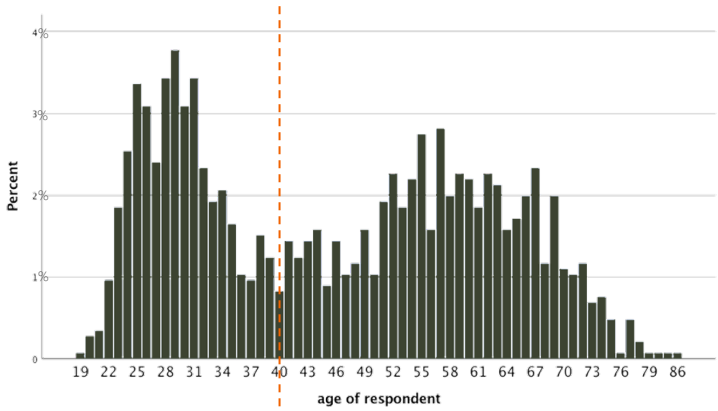


Image 7.2 Age of respondents (n=1458).

7.1.2 Household composition

The household compositions of the respondent group are presented in image 7.3. As can be seen, the respondents to the questionnaire largely are multi-person households consisting of two or more adults but with no children (54.5%, n=795). Within this category, the largest part of respondents (81.0%, n=633) are part of households consisting of two adults. 11.3% of the households consist of three adults (n=88), and 5.8% consists of four adults (n=45). The remaining 1.9% of households consist of five adults or more (n=15).

A little over a quarter of the respondents belong to a multi-person household with children (27.0%, n=393). Most of these households (64.1%, n=252) comprise of two adults. 15.5% are single-parent households (n=61), and 11.7% (n=46) of the households with children house three adults. The minority of households with children house four adults or more (8.7%, n=34). The number of children which live in these households ranges from one to four. Having either one or two children is most common (respectively 43.5% n=171, and 44.3% n=174).

The single-person households represent with 18.5% the smallest group of people (n=270).

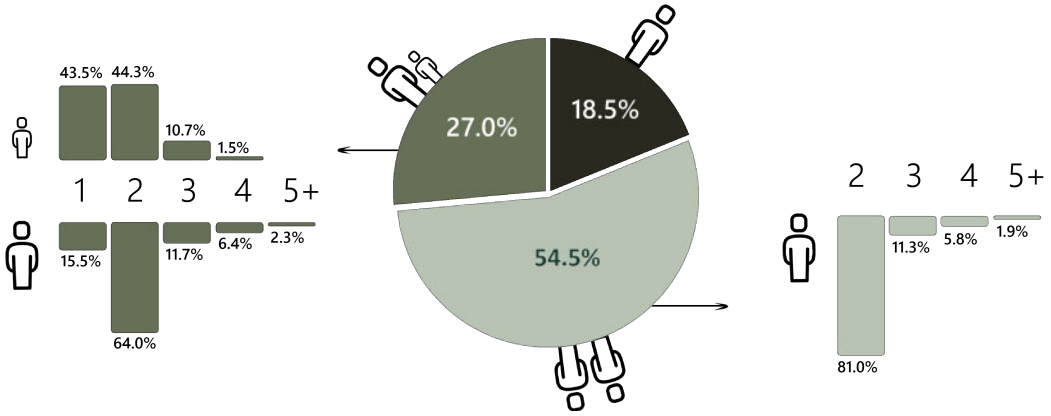


Image 7.3: the household compositions of the respondent group (n=1458).

When comparing the distributions of age per household composition, the life course events are visible even more clearly. As shown in image 7.4, households with children are between 22 and 69 years old. The average age of respondents who live with children is 45 years old. The age distribution of multi person household without children is bimodal and is roughly the inverse of the age distribution of households with children. This is explainable through the life course event of receiving children. The number of multi person households without children decreases when children are received and as a consequence the number of multi person households with children increases. Likewise, when the multi person households with children decrease since the children have come of age and move out of the household, the number of multi person household without children increases. The single person households portray a bimodal age distribution, but not as clearly as the multi person household without children. This is explainable since finding a partner or splitting up is not as bound by age as receiving children and them coming of age is.

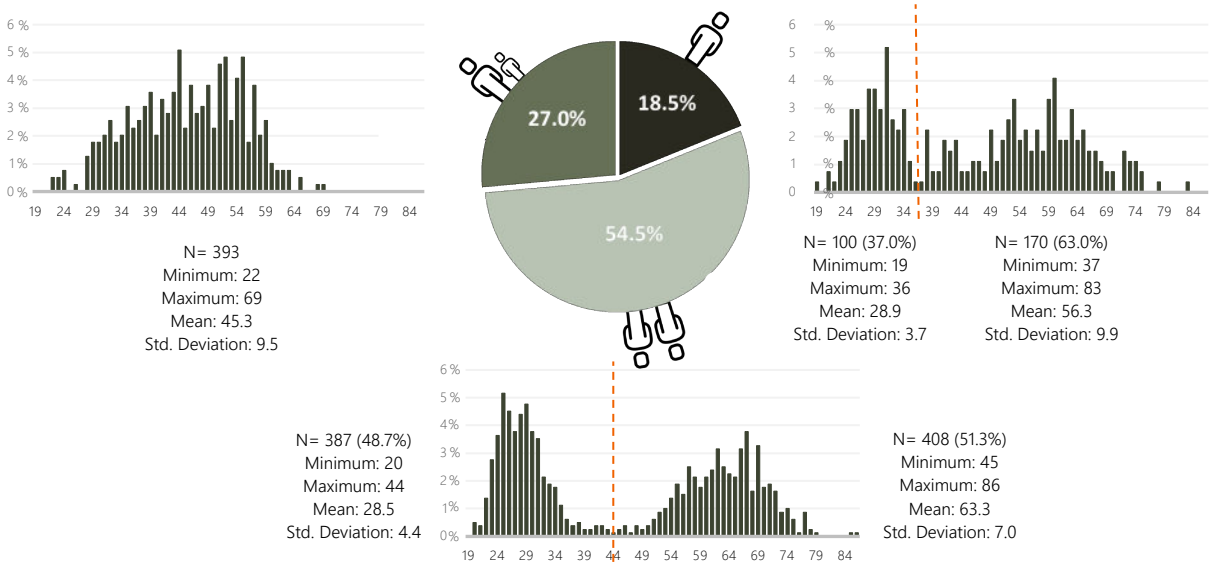


Image 7.4: The distribution of age per household compositions of the respondent group (n=1458).

7.1.3 Education

The respondents are relatively highly educated. As shown in image 7.5, more than a third of the respondents (35.1%) has obtained a Bachelor's degree at a university of applied sciences (Dutch: HBO) or at an academic university (Dutch: WO). This is their highest obtained level of education. Furthermore, almost a quarter (24.1%) has obtained a Master's degree at said institutions, and 1.8% has obtained a Doctor's degree. As such, 60.9% of the respondents are highly educated. This is much higher than the average of people having obtained a higher education degree in the Netherlands in general, which is 33.4%. Additionally, 25.8% of the respondents obtained a secondary education, relative to 37.3% of the Dutch population. Lastly, 13.3% of the respondents obtained a maximum of lower education, relative to 29.2% of all people in the Netherlands. As such, the respondent group is not representative to the general Dutch population in terms of the highest obtained level of education. This is, however, not unusual seeing as the target group consists of (aspiring) owner-occupiers, which people who are on average more often highly educated then people participating in the rental housing market. (StatLine publicaties, 2021a)

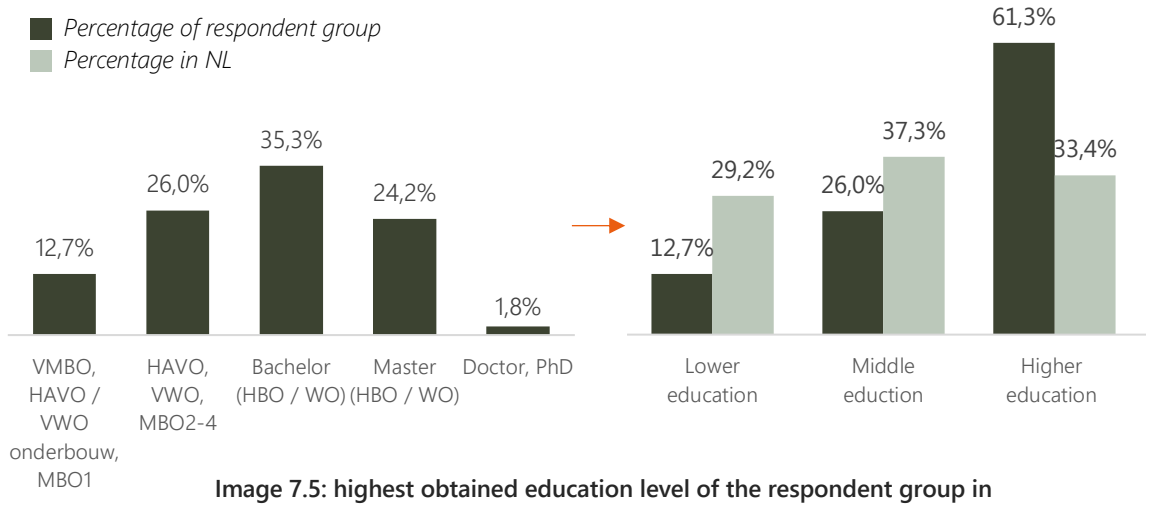


Image 7.5: highest obtained education level of the respondent group in comparison to the Netherlands.

7.1.4 Combined income

The median of the combined income of the respondents, which is the net income of the respondent and a possible partner combined, is between the €3000 and €4000 per month. 23.5% of the respondents receive this income. A fifth of the respondents (22.5%) receive more, namely between the €4000 and €5000 monthly net income, and a third receive less, namely between the €2000 and €3000 et income each month. Image 7.6 shows the monthly net combined income of the respondents. Since the intervals of this data do not correspond with the intervals used by the Dutch Central Bureau of Statistics (CBS) a comparison between the net income of the respondent group and the average net income of the Dutch population cannot be made.

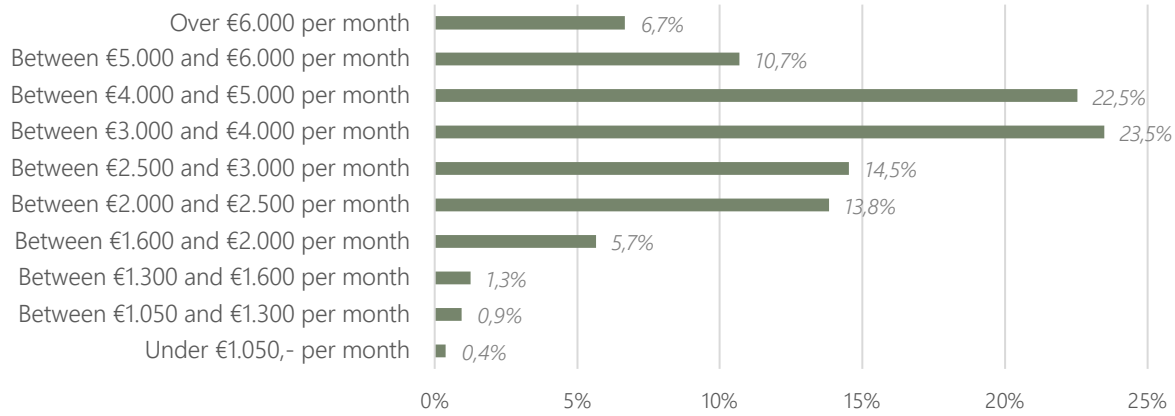


Image 7.6: Combined income (n=1458)

7.2 Baseline measurement of the housing situation

In order to understand the preferences – and changes hereof – of the respondents, their current housing situation is imperative. This is the baseline measurement, i.e., 'the actual representation of the current situation' of this research (LSSP (Lean Six Sigma Partners), 2021). The following paragraphs report the current situation of the respondent group by means of descriptive statistics.

7.2.1 Current Place of Residence

Province and Randstad

An analysis of the provinces in which the respondents live is shown in image 7.7. As mentioned in paragraph 6.2, this thesis adheres to the definition of the Randstad as "a conglomerate of large and midsize cities" comprising the provinces North-Holland, South-Holland, Utrecht and Flevoland (Representation of the Randstad Region in Brussels, 2019, p. 3). The analysis of the provinces of residence shows that the majority (72.7%) of the respondent group live in the Randstad (image 7.7). Since, as depicted in image 7.8, of the general Dutch population less than half (48.1%) live in the Randstad and 51.9% live in the remaining provinces, the respondents living in the Randstad are over-represented in this study (StatLine publicaties, 2021b). This is, however, explicable since the number of people wanting to move is higher is the Randstad then elsewhere in the Netherlands (Manting et al., 2008). Furthermore, relatively many newly built houses are developed in the Randstad, and the respondent group is, as explained in paragraph 6.1.1, oriented towards the newly built housing market. In 2020, half of the total newly realized housing stock (50.1%) was located in a Randstad province (CBS, 2021c).

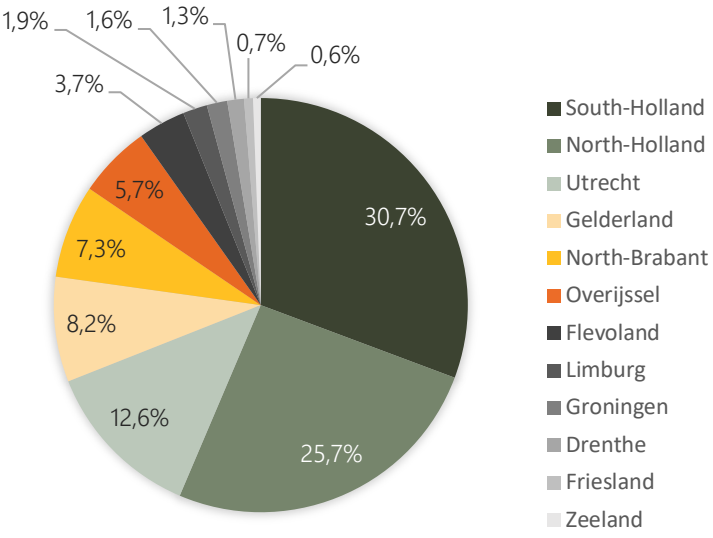


Image 7.7: The current provinces of residence of the respondent group (n=1458).

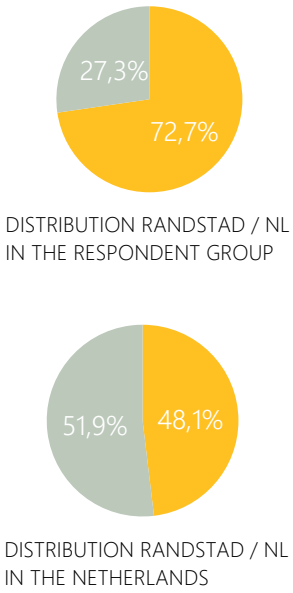


Image 7.8: Ratios of people living in the Randstad (n=1458).

Municipality and Urbanity

The respondents live distributed over the Netherlands as shown in image 7.9. The municipality of Amsterdam (6.2%) followed by Rotterdam (5.6%) The Hague (4.0%) and Utrecht (3.6%) house the highest percentage of respondents. Together, they house 19.3% of all respondents. In total, a third of the respondents (32.0%) live in one of the cities as displayed in image 7.9.

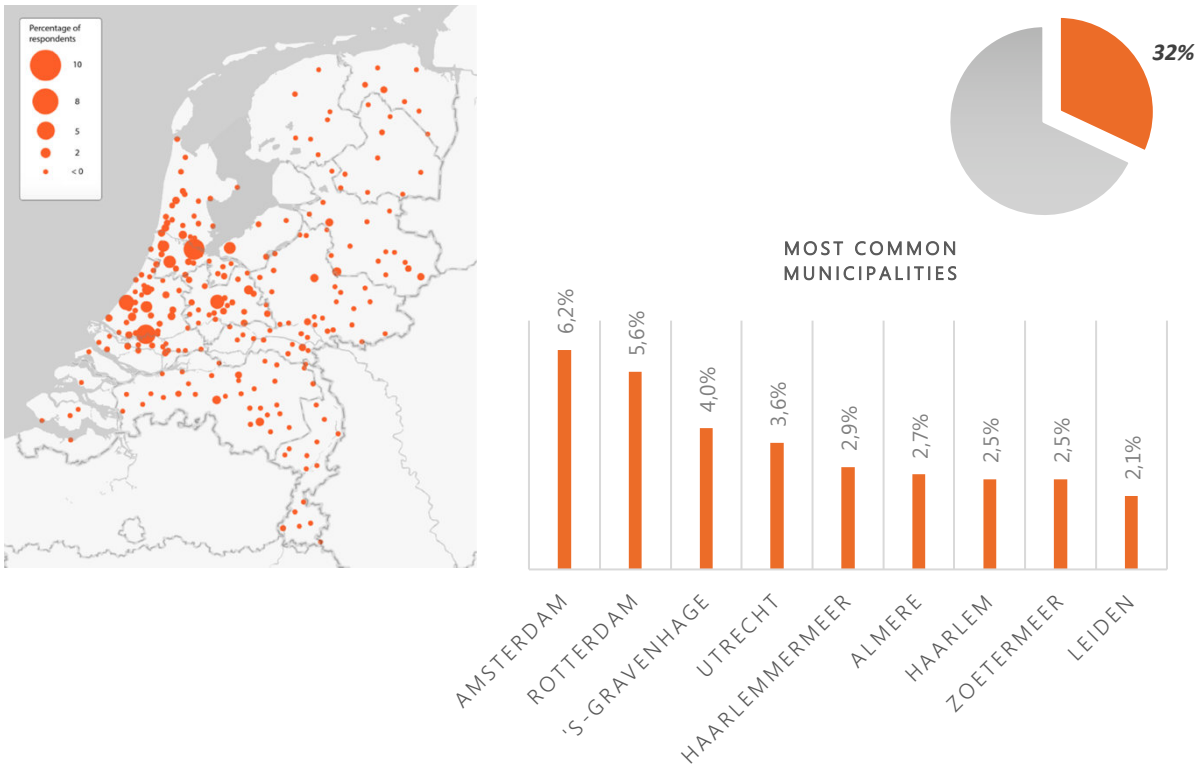


Image 7.9: Current place of residence of the respondents, in percentages per city (n=1458).

Besides that these municipalities are located in the Randstad, this data also suggests that many respondents live in the big and the rather large cities. Looking once more at the urbanity of the respondents' places of residence as shown in image 7.10, this data corroborates that the majority live in (very) highly urban places (64.9%). The percentage of people living in moderately urban places is 18.4%, and a minority of 16.7% live in hardly urban- or not urban places.

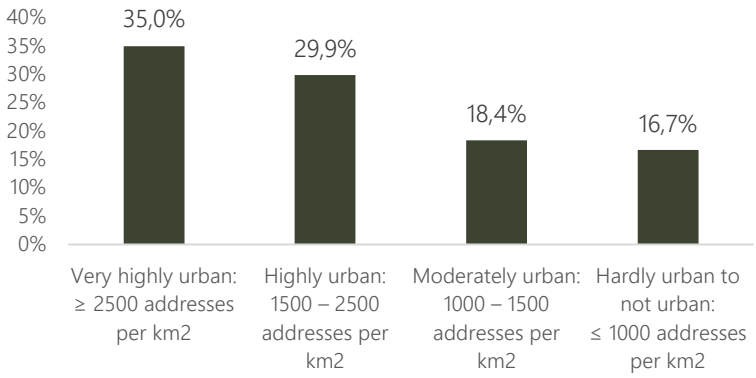


Image 7.10: Current place of residence of the respondents, in percentages per city (n=1458).

7.2.2 *Current living environment*

As paragraph 7.2 illustrated, many respondents live in the Randstad and in the big and rather large cities, and less people live in rural places. In order to differentiate between the places of residence, this study utilizes, as explained, the CBS classification of the level of urbanity for determining how urban a living environment is. This code is, as explained, a measure for the surrounding address density (in number of addresses per km^2). This is thus a scientific measure which enables classifying the respondents on their places of residence. However, not only the exact true level of urbanity of a place of residence is of importance. How people experience their living environment, regardless of its true address density, is imperative.

City-size

For this reason, the questionnaire explored whether people experience their current living environment as either a small town, a (big) village, a small city, a normal-sized city, or as a metropolitan. As can be seen in image 7.11, the study showed that more than half of the respondents feel they live in either a normal-sized city (27.2%, n=397) or a metropolitan (27.0%, n=394). Furthermore, a third of the respondents (28.1%, n=409) experience their living environment as a normal-sized or big village. 12.8% (n=187) indicated they live in a small city, and 4.9% (n=71) live in small town.

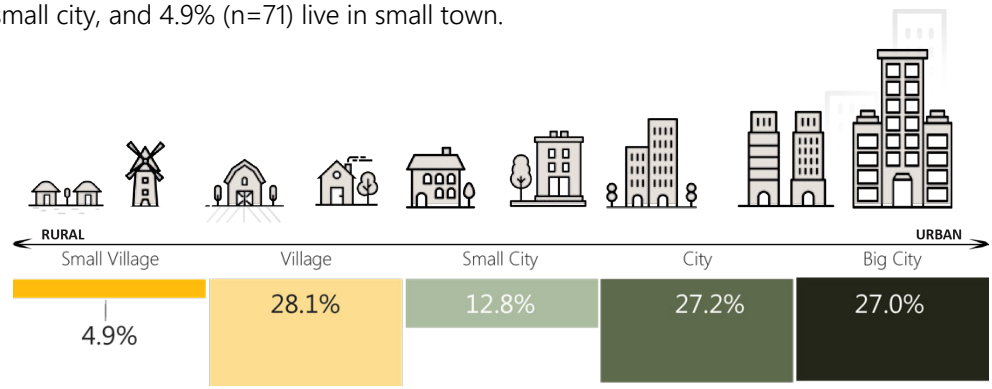


Image 7.11: Current size of the city of residence of the respondent group (n=1458).

Neighborhood characteristics

Additionally, as illustrated in image 7.12, the study showed that most people (52.3%, n=763) indicate living in a quiet residential area. Near to a quarter of the respondents (23.9%, n=348) live in a vibrant city district. The smaller part live in either the inner city (10.0%, n=146), or au contraire in a village (10.6%, n=155) or rural area (3.2%, n=46).

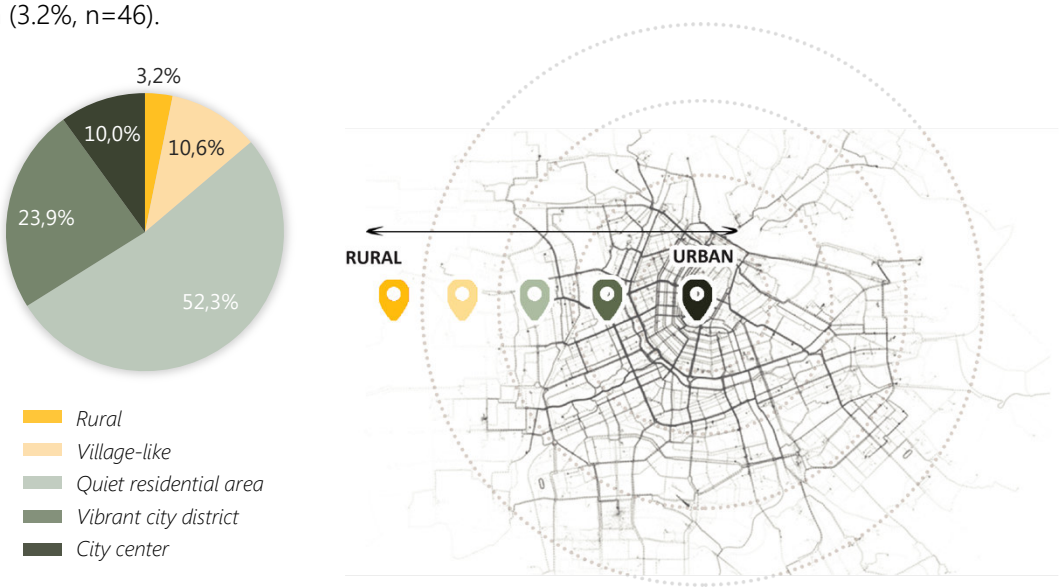


Image 7.12: Current neighborhood characteristics of the respondent group (n=1458).

7.2.3 Current dwelling situation

Ownership

Two thirds of the respondents (68.0%, n=973), all of whom have indicated they are actively looking for a house on the owner-occupied housing market, are currently already homeowner, as illustrated in image 7.13. Image 7.14 elucidates that the dwellings owned by these respondents are most often between the €300.000 and €400.000 (the median, 31%, n=286). A little less than a third of the respondents own a dwelling between the €400.000 and €600.000 (27%, n=249). Another substantial although smaller group of respondents (16.7%, n=154) own a dwelling between the €250.000 and €300.000. In total 97% of the respondents own a dwelling with a maximum value of €800.000

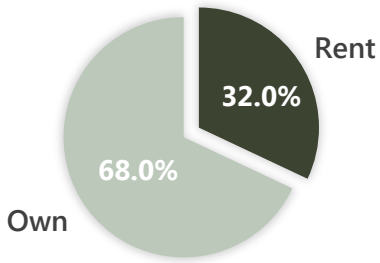


Image 7.13: Current ownership status of the respondent group (n=1431).

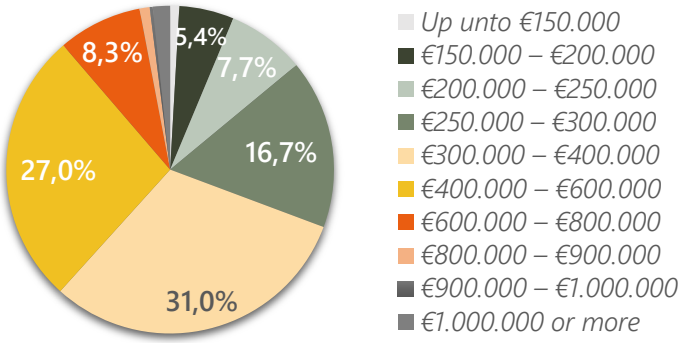


Image 7.14: Worth of the dwellings owned by the respondent group (n=923).

As shown in image 7.15, of the 32.0% of respondents (n=458) who are looking to make their entrance into the owner-occupied housing market, 46.25% (n=212) rent a dwelling from a housing association, and 53.75% (n=246) rent in the private sector. The majority (40.2%, n=191) pays a maximum of €752.33 rent per month, which is the rent limit for rent allowance in 2021 in the Netherlands (Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2021). The group renting just above this limit and paying between the €752.33 and €900 per month in rent encompasses 16.2% of respondents (n=77). A quarter of the respondents (26.5%, n=126)) renting a house pay between the €901 and €1200 in rent each month. A tenth of the respondents (10.5%, n=50) pay more than €1200 in rent each month. Thirty-one people (6.5%) indicated not paying rent.

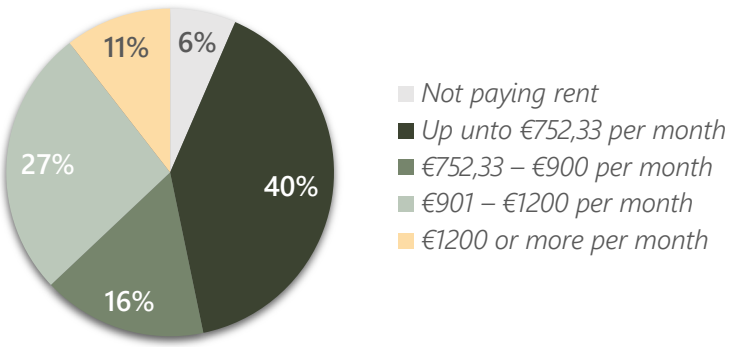


Image 7.15: Rent paid by the respondent group (n=475).

Dwelling type

Two of the dwelling type categories encompass over threequarters of all respondents. The first category, the "terraced dwelling, in-between dwelling, corner house, and quadrant house" (Dutch: rijtjeshuis, tussenwoning, hoekwoning kwadrantwoning), houses 42.9% of the respondents. In the second category, the "apartment, i.e., flat, multi-story house, upstairs or downstairs apartment, maisonette" (Dutch: Appartement e.g., flat, etagewoning, boven- of benedenwoning, maisonette), 33.6% of the respondents live. 11.4% live in a semi-detached house (Dutch: half-vrijstaande woning, 2-onder-1 kap woning), and 8.5% live in a detached house (Dutch: vrijstaand huis). The resulting 3,6% of respondents live in a variety of dwelling types, as can be seen in image 7.16.

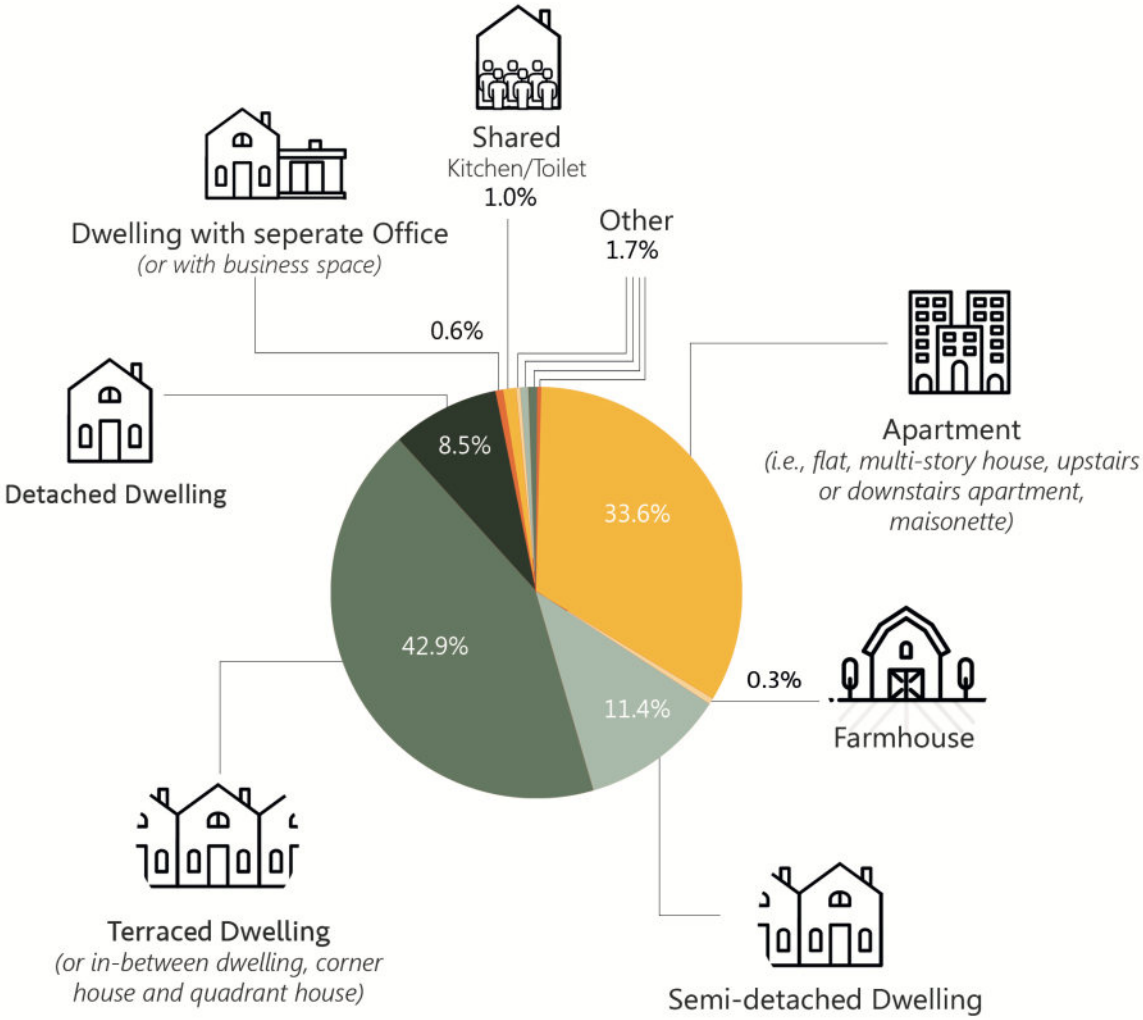


Image 7.16: The dwelling types in which the respondents currently live (n=1430).

Dwelling size

As is shown in image 7.17, a quarter of the respondents live in a dwelling which is between 100 m^2 and 125 m^2 big (24.8%, n=333). This is the median. Of the remaining respondents, the bigger part (42.6%, n=573) live in a house which is smaller than this (< 100 m^2), and the smaller part (32.6%, n=438) live in a bigger house (> 125 m^2).

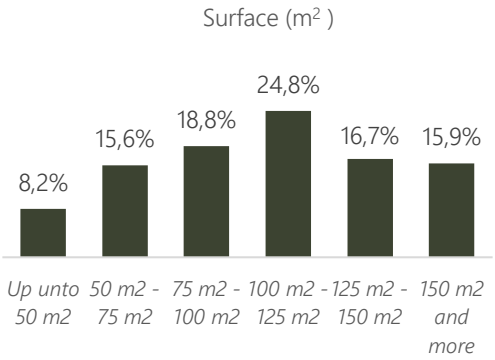


Image 7.17: The dwelling size in which the respondents currently live measured in surface area (m^2) (n=1344).

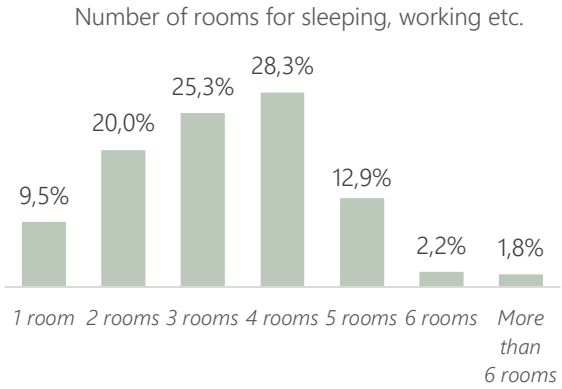


Image 7.18: The dwelling size in which the respondents currently live measured in number of rooms for activities such as sleeping or working (n=1438).

As illustrated in image 7.18, the number of rooms (i.e., bedrooms and/or home offices) people have in their dwellings is most often four: 28.3% of people have this number of rooms (n=407). However, the median number of rooms is three, as the majority of people have less than four rooms (54.7%, n=787). Namely, a quarter of the respondents have three rooms (25.3% n=364), a fifth have two rooms (20.0%, n=287), and 9.5% have one room at their disposal (n=136). 12.9% of the respondents (n=186) has five rooms.

Outdoor space

Image 7.19 shows the types of outdoor space the respondents currently have with their dwelling. Most people have only one type of outdoor space with their dwelling (79.2%, n=1155). Solely 15.4% (n=225) own two types of outdoor space, and the remaining respondents mostly own three types of outdoor space (1.2%, n=18). Fifty-eight people (4.0%) indicate having no outdoor space at their current dwelling.

The type of outdoor space which most people have is a garden: two third of the respondents currently have a garden with their house (66.0%, n=962). Furthermore, a third of the respondents (34.3%, n=500) have a balcony. Other types of outdoor space which people have are less common and are for example (court)yards (7.1%, n=89) or Patios (1.9%, n=28).

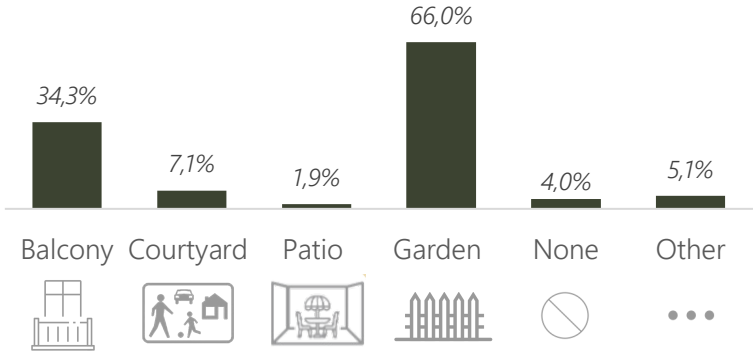


Image 7.19: The outdoor space which respondents currently have with their dwelling (in percentages of respondent group) (n=1458).

7.3 Chapter closing

The previous paragraphs illustrated the characteristics of the respondent group, and their current housing situation. The chapter is recapitulated in chapter thirteen, paragraph 13.1. The next chapters each provide the answer to one of the sub questions.

8. Ongoing housing preference trends

This chapter provides the answer to sub-question one; ***"What were the trends in housing preferences of owner-occupiers in the Dutch housing market before the Corona crisis started?".*** *The chapter presents an overview of trends in housing preferences which were in progress or emerging up until the Corona crisis started in March 2020.*

8.1 Scale: The living environment

8.1.1 Leaving the Randstad

A trend in housing preferences already in progress before the start of the crisis, is one on the level of the living environment, namely the trend of households leaving the Randstad. As mentioned in the introduction of this thesis**,** Hegger (2020) states that "the migration from the Randstad *is also continuing* and even seems to be getting stronger." This indicates the intensification of a trend already in progress before the Corona crisis, not the origination of a completely new trend. The existence of this trend pre-Corona is corroborated by Stuart-Fox, Blijie, Ligthart, Faessen, and Kleinepier (2019) who elaborate that the moving distance from the Randstad is increasing.

The Dutch Central Bureau of Statistics (2021a), which researched moving patterns between 2015 and 2020, affirms that "the migration from the Randstad to regions beyond it has been increasing in recent years". They elaborate that especially multi person households without children and who are over thirty years old increasingly do so. Furthermore, they affirm that each year an increasing number of households move away from the Randstad while the number of households moving towards it stays constant. Concerning whereto the households who leave the Randstad move to, the CBS (2021a) states that mainly Gelderland, Drenthe and Limburg are receiving residents.

8.1.2 Leaving the city

However, not all households increase their moving distance as much. Besides the trend of people leaving the Randstad to a different province, there is also a trend visible of households moving away from the highly urban areas, but within the current region. As Stuart-Fox et al. (2019) state, the group that wants to leave the city is slowly growing. This is confirmed by the data of the CBS (2021a), which shows that "within the Randstad, only the less urbanized regions grew strongly in resident numbers, such as the Gooi and Vecht region and East South Holland", while in the highly urban areas and big cities, resident numbers declined because of households moving away. The result is rising house prices in the areas surrounding the highly urban areas.

The CBS (2019) argues that possible reasons for leaving the city are the little amount of living space and the lacking of a garden. The WoON2018 (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (BZK) & Centraal Bureau voor de Statistiek (CBS), 2019) established that these reasons caused mainly families in big cities to more often be inclined to move. This trend is visible in Amsterdam, where in 2018, twelve percent of families with young children left (CBS, 2017, 2019)

Besides moving from the big cities towards smaller cities, there is also a trend to move towards rural areas. Rensink (2020) states that "in the past five years, approximately sixty percent of agricultural businesses were bought [for the sole purpose of living there]".

8.2 Scale: The dwelling

8.2.1 Working from home

A trend influencing the preferences concerning the dwelling is that that of working from home. As has been explained in paragraph 2.2.1, working from home has been increasing in popularity in the last decade at least. This trend was thus also already set-in motion before the Corona crisis started. This is corroborated by Doling and Arundel (2020, p. 1) who explain that working from home is not a new phenomenon as there has already been "a growth in the use of homes as locations for income-generating activities across many advanced economies" for some decades.

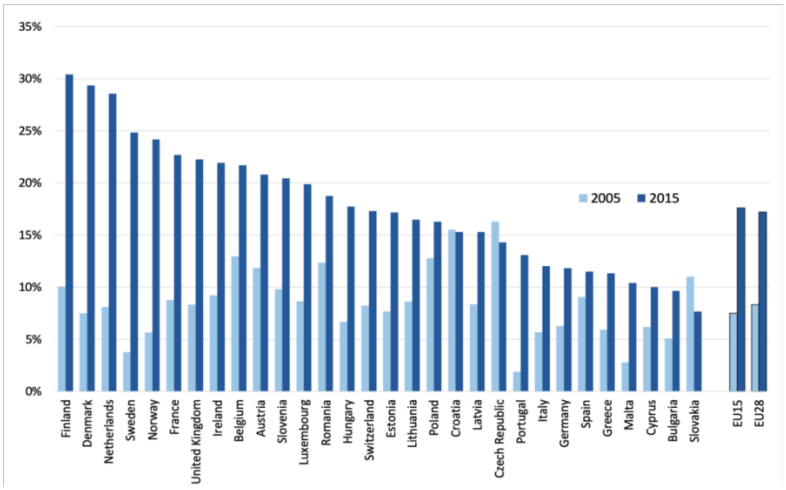


Image 8.1: The increase in people working from home 'around half the time or more' between 2005 and 2015 in percentages of the workforce.
(Doling & Arundel, 2020, p. 7, Based on European Working Conditions Survey 2005-2015)

Image 8.1 shows the increase of people working from home 'around half the time or more' between 2005 and 2015 in percentages of the workforce (Doling & Arundel, 2020, p. 7, Based on European Working Conditions Survey 2005-2015). It is notable that this already encompassed a considerable share of the workforce in 2015 (28.5%). As such, the increase in working from home was already a trend before the Corona crisis started.

8.3 Chapter closing

The previous paragraphs elucidated what the housing preferences trends of owner-occupiers in the Dutch housing market were up until the start of the Corona crisis. With this, research question one, *'What were the trends in housing preferences of owner-occupiers in the Dutch housing market before the Corona crisis?'*, has been answered.

In summary, there was already a trend of people leaving the Randstad in favor of Gelderland, Drenthe and Limburg. Especially households without children and over thirty years old partake in this trend. Furthermore, there was already a trend of households leaving the highly urban areas and the big cities but staying within the current province. Especially multi person households with young children do so. Reasons comprise the little amount of living space and the lack of a garden. The locations they move to are mainly the less urbanized regions and smaller cities surrounding the highly urban areas. Furthermore, there was already a trend of moving towards the rural areas.

Concerning the dwelling itself, the trend of working from home has already been increasing in the last decade at least. The above is recapitulated in chapter thirteen, paragraph 13.2.

9. Present housing preferences

*This chapter provides the answer to sub-question two; "**What are the (stated) housing preferences of (aspiring) owner occupiers in the Dutch housing market during the Corona crisis?".** The chapter presents an overview of the findings of the survey with regards to these stated housing preferences. The 'determination of the price range' in which respondents wish to find a dwelling and the 'combined income' of the households are control factors to determine whether the preferred price range which respondents expressed is realistic. As such, this confirms whether the expressed preferences of the respondents are indeed 'stated', or if they are in fact 'ideal'. While reading these preferences, it's important to keep in mind that these are the preferences of people who are actively looking to buy a house in the Dutch housing market.*

9.1 The dwelling preferences

9.1.1 Dwelling type

Respondents were able to select multiple dwelling types which they prefer. Out of the 1458 respondents, most (53.7%) are set one category of dwelling type. Approximately a third of the respondents (28.1%) selected two categories of preferred dwelling types. And a limited slection of people selected three categories of dwelling types (12.9%). Of the three respondents who selected six or seven categories, it can be doubted whether their preference is indeed stated, or whether they have not oriented themselves on the housing market.

As shown in image 9.1, nearly half of the respondents (48.2%) wish to buy a "terraced dwelling, in-between dwelling, corner house, and quadrant house" (Dutch: rijtjeshuis, tussenwoning, hoekwoning kwadrantwoning). The "apartment, i.e., flat, multi-story house, upstairs or downstairs apartment, maisonette" (Dutch: Appartement, e.g., flat, etagewoning, boven- of benedenwoning, maisonette) is preferred by 40.0% of the respondents. The third most preferred category is that of the semi-detached dwellings (37.9%, Dutch: half-vrijstaande woning, 2-onder-1 kap woning). Furtermore, 28.9% of the respondents would like to buy a detached house. Remaining dwelling types preferred by respondents are amongst others the farmhouse (4.1%), a dwelling with a separate office or business space (3.3%), and the life-course-proof dwelling (5.6%).

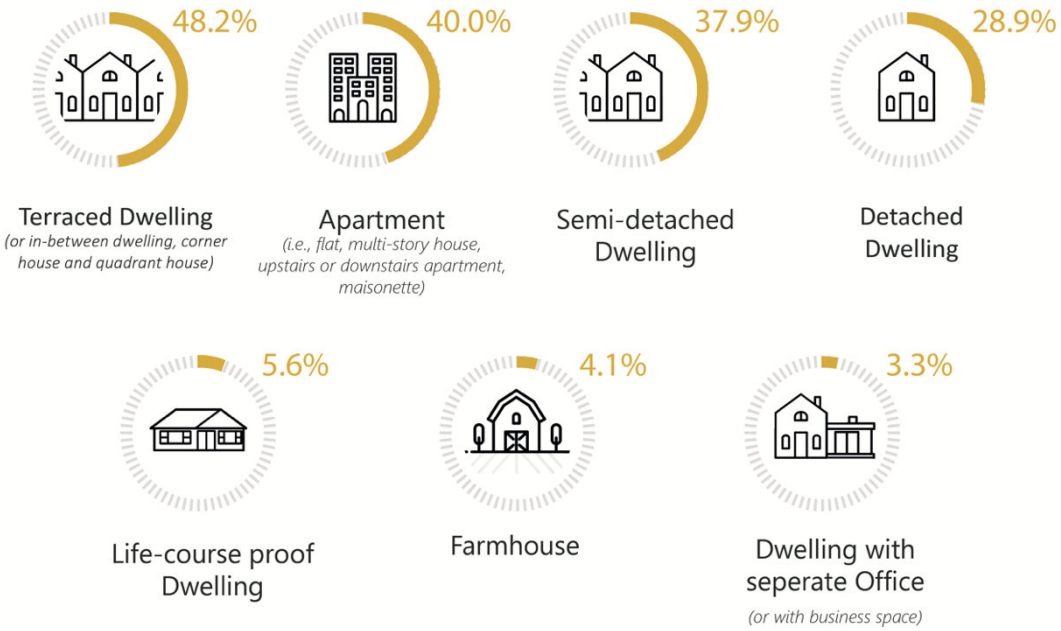


Image 9.1: preference of dwelling type (n=1458)

9.1.2 *Dwelling size*

Of the 1407 respondents who determined their preferred dwelling size, the majority wants to buy a house between the 75 m^2 and 100 m^2 (26.9%) or between the 100 m^2 and the 125 m^2 (32.2%). Solely 13.8% of the respondents prefer a house no bigger than 75 m^2. In contrary, 17.6% are looking for a dwelling between the 125 m^2 and 150 m^2. Only 10.4% of the respondents a in search of a dwelling in the largest category. These people prefer a house of 150 m^2 or more. Image 9.2 visualizes the mentioned ratios.

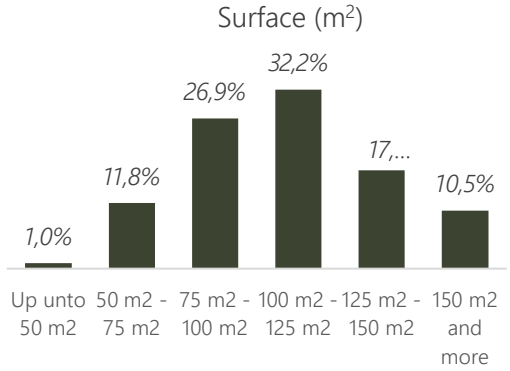


Image 9.2: Preference dwelling size in surface area (m^2) (n=1407).

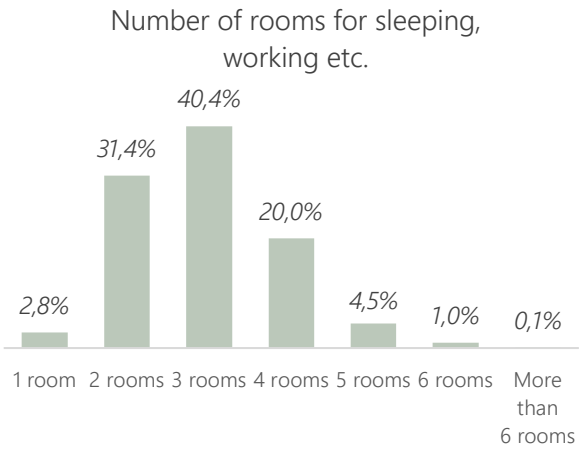


Image 9.3: Preference dwelling size in number of rooms for activities such as sleeping or working (n=1452).

Image 9.3 shows that the number of rooms available for sleeping or other activities such as working, which the respondents require in their new dwelling, is most often three (n=1452). 40.4% prefer this number of rooms. A third of the respondents (31.4%) are looking for less rooms in their new dwelling, namely two rooms, and a fifth (20.0%) require more, namely four rooms. Together, these respondents represent 91.7% of the sample. The remaining group prefers having just one room (2.8%), five rooms (4.5%), or six rooms or more (5.5%).

9.1.3 *Outdoor Space*

Most respondents (63.5%) require one type of outdoor space with their new dwelling. More than a quarter (28.0%) prefer having two types of outdoor space, and just 6.5% prefer three types of outdoor space. It is apparent that all respondents require at least one type of outdoor space.

As image 9.4 shows, the majority of the respondents require having a garden or bigger garden than they currently have with their new dwelling (78.9%). A third (37.7%) want a balcony or bigger balcony. A tenth (13.0%) want a (bigger) patio. The remaining type of outdoor space which people want are (bigger) (court)yards (14.0%).

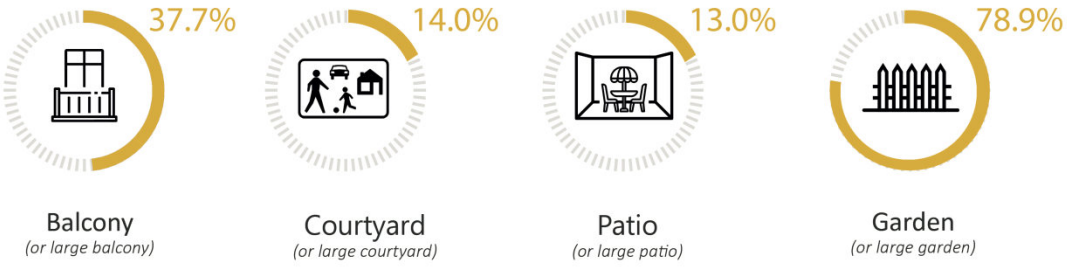


Image 9.4: Preference outdoor space (n=1458)

9.1.4 Price range

As image 9.5 shows, respondents (n=1446) are most often looking for a dwelling between the €300.000 and €400.000 (26.6%). Almost a quarter (24.0%) is in search for a dwelling between €400.000 and €600.000. Approximately a fifth (18.7%) prefers a dwelling between €250.000 and €300.000, and 13.5% want a dwelling between €200.000 and €250.000. All in all, nine of out ten people (92.7%) are in search of a dwelling which is less than €600.000.

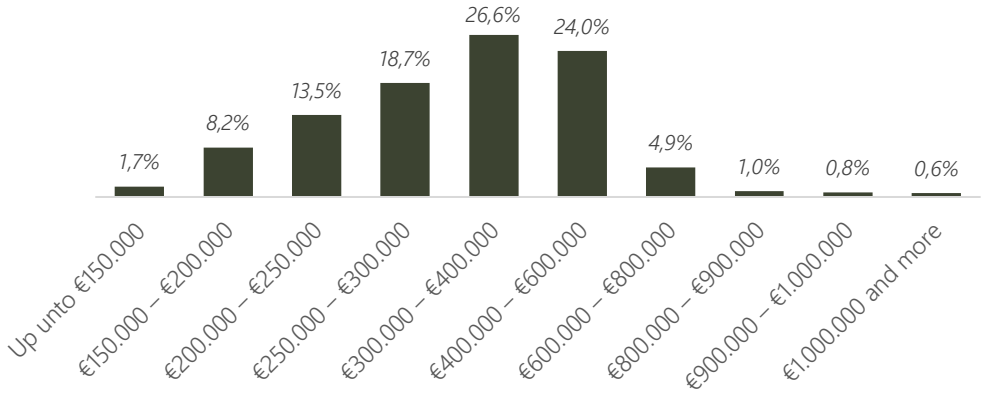


Image 9.5: Preference price range of dwelling (n=1446)

Capabilities

The survey built in a control factor to ascertain whether people have a realistic image of their capabilities, and if their preference is thus stated or ideal. For this, the assumption has been made that financial capabilities are similar to the willingness to pay. This assumption has been made based on the limited supply and high prices in the housing market limiting freedom of choice.

It appears that approximately half of the respondents (45.5%, n=1458) determined their preferred price range through consulting a financial advisor. This group thus has a realistic view of their capabilities, and their preferences are indeed stated. A tenth of the respondents (11.5%) indicate having determined their targeted price range by calculating the maximum mortgage they can get using a calculation instrument provided on the internet. These people have some idea of their capabilities, but their estimations might not be correct. Furthermore, 36.9% of the respondents state having estimated their target price range based on combined income, capital saved and possible equity gained in case of currently already owning a dwelling.

9.2 The living environment preferences

9.2.1 Location; moving distance

The survey inquired how far from the current place of residence respondents are willing to move. The options respondents were able to choose from ranged from 'within the current neighborhood' to 'to another country'. The majority (61.7%, n=1458) is considering only one option and is thus relatively certain about where they want to live. The remaining 38.3% are considering multiple options. 21.7% Consider two moving distances, and 10.4% consider three.

As can be seen in table 9.1, respondents mostly consider moving within the current municipality (57.9%). Furthermore, 43.7% considers moving to another municipality, but within the current province. A fifth of the respondents (20.4%) considers moving further away, namely to another province. Solely 2.6% considers moving to another country. In contrast, some respondents consider moving within the current neighborhood (16.5%) or district (14.5%). 7.4% of the respondents indicate not having a preference of whereto to move. It is doubtful whether these people formed a stated preference, or whether they have not oriented themselves effectively.

	Percent of cases
Within the current neighborhood	16.5%
Within the current district	14.5%
Within the current municipality	57.9%
To another municipality within the current province	43.7%
To another province	20.4%
To another country	2.6%
Don't know / no preference	7.4%

Table 9.1: Moving distances as considered by the respondents (n=1458)

9.2.2 Provinces

Of the respondents who are considering moving to another province (n=298), the majority (32.2%) selected solely one province as an option. Another group (29.5%) indicate considering two provinces. Furthermore, 21.1% consider three provinces, and 10.7% consider four.

The provinces which are most preferred by the respondents considering moving to another province (n=298) are Gelderland, which is considered by 46.3% of the respondents, and Utrecht, which is considered by 44.0%. Furthermore, approximately a third of these respondents considers moving to North-Holland (31.9%) and South-Holland (30.5%). A quarter (22.5%) prefers Overijssel. The remaining provinces which are considered by respondents are North-Brabant (18.1%), Drenthe (11.4%), Flevoland (9.1%), Zeeland (6.7%), Friesland (6.0%), Limburg (5.4%) and Groningen (3.4%).

9.2.3 Current place of residence and incentive to move

As shown in table 9.2, 74.2% of the respondents who consider moving to another province (n=298) currently live in a Randstad province (n=221). Of these people, 37.1% (n=82) considers moving within the Randstad. Furthermore, 26.7% (n=59) considers moving away, and 36.2% (n=80) considers both.

A quarter of the people considering moving to another province (25.8%, n=77), currently do *not* live in the Randstad. Of these people, 29.9% (n=23) considers moving to the Randstad. Moreover, 50.6% (n=39) considers a not-Randstad province, and 19.5% (n=15) considers both.

When considering these numbers, it needs to be taken into account that of the total sample, 72.7% lives in the Randstad, and 27.3% does not. The ratios thus seem to correspond, and *do not* indicate an increased motivate for moving to another province for people currently living in the Randstad. However, the incentive to stay in the current area of residence (Randstad / non-Randstad) seems to be higher for people currently *not* living in the Randstad, then for people who do.

	Considers moving to a Randstad Province		Considers moving to a non-Randstad Province		Considers both Randstad and non-Randstad provinces		Total	
Currently lives in a Randstad province	82	*37.1%*	59	*26.7%*	80	*36.2%*	221 *74.2%*	*100%*
Currently lives outside of the Randstad	23	*29.9%*	39	*50.6%*	15	*19.5%*	77 *25.8%*	*100%*
							298 *100%*	

Table 9.2: Wherefrom and where to do people consider moving. (n=298).

9.2.4 *Preferred moving destinations*

Of all the respondents wanting to move to another province (n=298), 67.1% (n=200) considers the provinces Utrecht, North-Holland, South-Holland or Flevoland. These encompass, as can be seen in table 9.2, all respondents who consider one or more of these provinces, regardless of their current place of residence or whether they do or do not also consider provinces outside of the Randstad. In other words, 67.1% of the people wanting to move to another province considers living in the Randstad. Of this group who considers living in the Randstad, 81.0% (n=162) currently already live in a province in the Randstad and thus consider moving to another province within the Randstad. A fifth of the people considering a Randstad province (19.0%, n=38)) are currently not living in the Randstad. These are thus the people who consider moving towards it.

Of the respondents wanting to move to another province (n=298), 64.8% (n=193) considers one or more provinces outside of the Randstad, namely Drenthe, Friesland, Gelderland, Groningen, Limburg, North-Brabant, Overijssel or Zeeland. These encompass, as can be seen in table XXX, all respondents who consider one or more of these provinces, regardless of their current place of residence or whether they do or do not also consider provinces inside of the Randstad. Of these people who consider living outside of the Randstad, solely 28.0% (n=54) currently already live in one of these non-Randstad provinces. In contrast, 72.0% currently live in the Randstad (n=139). However, even though this seems like a significant ratio, keeping in mind that of the total sample, 72.7% lives in the Randstad, and 27.3% does not, places it into perspective.

An analysis of the current places of residence of the respondents, and the provinces which they consider are shown in image 9.6 and 9.7.

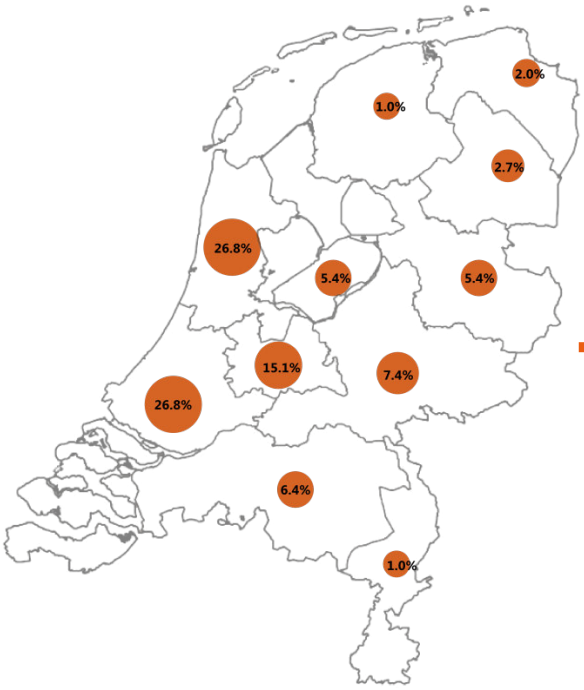


Image 9.6: The provinces were the respondents who consider moving to another province currently live. (n=298)

Image 9.6: The provinces currently considered by the respondents who are willing to move to another province. (n=298)

9.2.5 *City-size*

The survey inquired what type of living environment people would prefer with regards to the size of the city, ranging from small village to metropolitan. The majority of the respondents (57.9%, n=1458) have a specific preference for one type city-size. Over a quarter (28.1%) selected two types, and 11.5% selected three.

Image 9.8 shows that the living environment which is most preferred is the normal-sized or big village. 47.3% of the respondents are looking for a dwelling in this environment. Furthermore, people prefer a small or normal-sized city, with respectively 39.0% and 35.7%. Finding a dwelling in a metropolitan is preferred by 16.9% of the respondents. A tenth (11.9%) is searching for a dwelling in a small town.

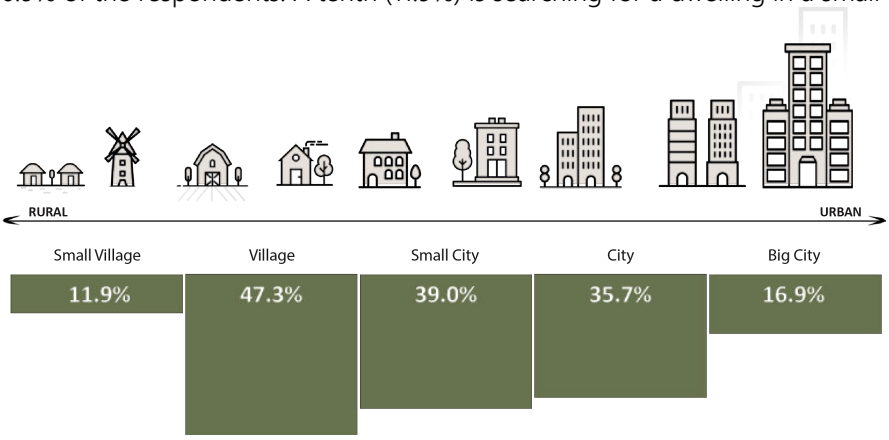


Image 9.8: The city sizes as preferred by the respondents (n=1458).

9.2.6 Neighbourhood characteristics

Besides having a preference for the size of the living environment, respondents conjointly prefer a certain neighbourhood within this environment (n=1458). Only half of the respondents prefer a specific neighbourhood (48.8%). Nearly a third (31.2%) s elected two options, and 17.2% selected three.

Image 9.9 illustrates that the survey showed that 70.3% of the respondents would like to obtain a dwelling in a quiet residential area. A little over a third (35.9%) consider living village-like, and almost a quarter (23.0%) wish for a rural environment. It stands out that 23.0% of the respondents wish to live in a rural environment, whereas only less than half the amount of people, namely 11.9%, consider living in a small town *(see image 9.8; the preferred city cize).* In contrast to this, 31% of the respondents consider living in a vibrant city district, and 14.6% would like to live in the inner city.

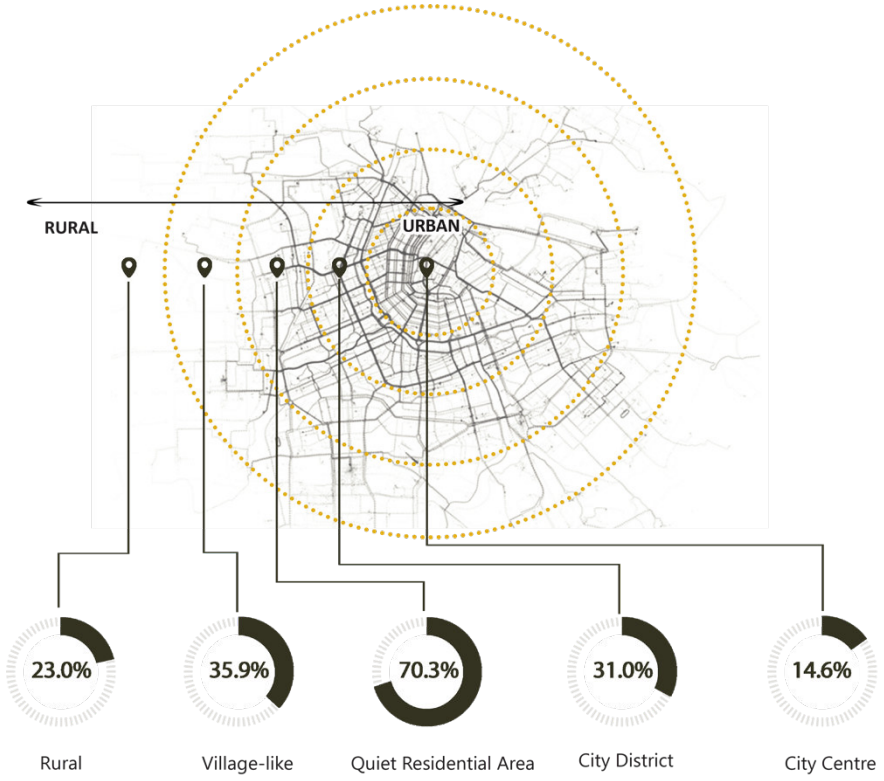


Image 9.9: The neighborhood characteristics as preferred by the respondents (n=1458).

9.2.7 Amenities

The city-size and neighbourhood of preference relates the wish for certain amenities. The survey inquired which type of amenities people ideally prefer to have within walking distance of their dwelling. The number of amenities which people find important ranges from one to fifteen (all options selected). However, the median is at four types of amenities, and 97.2% of the respondents indicated a need for nine or less types of amenities (n=1458). Image 9.10 presents an overview of the preferred types of amenities. The percentages represent the portion of the respondents which selected the concerning category.

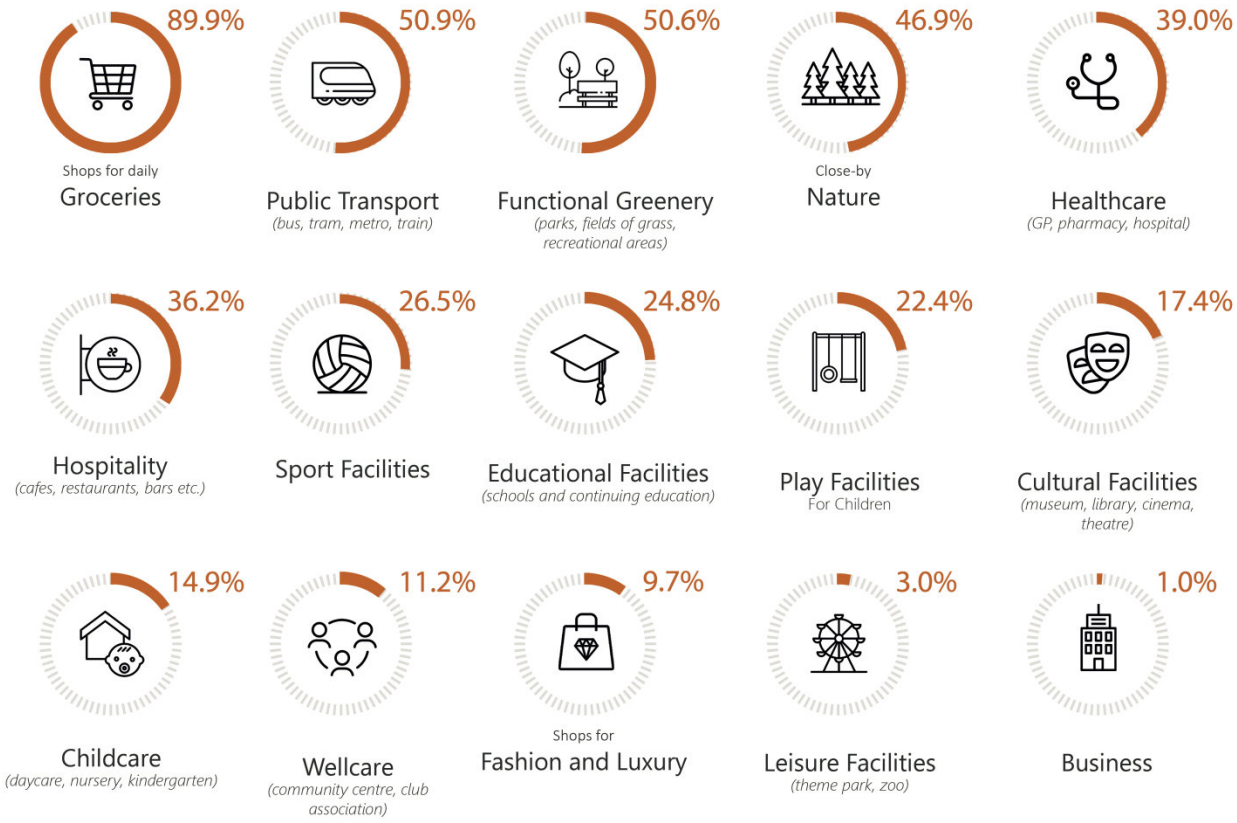


Image 9.10: The types of amenities as preferred by the respondents (n=1458).

9.3 Chapter closing

The previous paragraphs elucidated what the housing preferences of the respondent group currently are. With this, research question two, '*What are the (stated) housing preferences of (aspiring) owner occupiers in the Dutch housing market during the Corona crisis?*', has been answered. The current stated housing preferences are recapitulated in chapter thirteen, paragraph 13.3. The next chapter elucidates whether these preferences differ from the preferences from before the Corona crisis started.

10. Change in housing preferences

This chapter provides the answer to sub question three; ***"In which way have (stated) housing preferences of (aspiring) owner occupiers in the Dutch housing market changed due to the Corona crisis, and why?".*** *The chapter presents an overview of the findings of the survey concerning whether change within the stated housing preferences has taken place. What this change encompasses is then elucidated, and why this is so is explored. The chapter finishes with evaluating causes for the changing preferences.*

10.1 Did change transpire?

The following table (table 10.1) presents an overview of the answers as given by the respondents when asked if their preference concerning a certain dwelling attribute changed. The tabel presents the given answers in numbers and in percentages. As can be seen, the number of repondents whose preferences changed, whether or not Corona was the cause, varies per attribute and ranges between 24.5% and 4.5% of the total respondent group (n=1458). The change caused by Corona varies between 6.2% and 1.7% of the respondents, and is on average 3.4%. The following paragraphs (10.2 and 10.3) explicate per attribute of table 10.1 of how many repondents' their preferences changed and what this change encompassed.The paragraphs furthermore explore why this is so by means of the qualitative open ended questions.

If you recall the time before the Corona crisis started, has your preference changed since then or has it stayed the same?

	Don't know	The preference stayed the same	The preference changed, but not because of Corona	The preference changed because of Corona.
Preferred dwelling type	34	1312	80	32
	2,3%	*90,0%*	*5,5%*	*2,2%*
Preferred dwelling size (m2)	78	1265	63	52
	5,3%	*86,8%*	*4,3%*	*3,6%*
preferred dwelling size (*n* rooms)	47	1259	61	91
	3,2%	*86,4%*	*4,2%*	*6,2%*
Preferred outdoor space	48	1302	58	50
	3,3%	*89,3%*	*4,0%*	*3,4%*
Preferred price range	94	1006	282	76
	6,4%	*69,0%*	*19,3%*	*5,2%*
Preferred location; moving distance	43	1242	117	56
	2,9%	*85,2%*	*8,0%*	*3,8%*
preferred city-size	57	1329	47	25
	3,9%	*91,2%*	*3,2%*	*1,7%*
Preferred location characteristics	42	1342	39	35
	2,9%	*92,0%*	*2,7%*	*2,4%*
Preferred amenities closeby	45	1348	32	33
	3,1%	*92,5%*	*2,2%*	*2,3%*

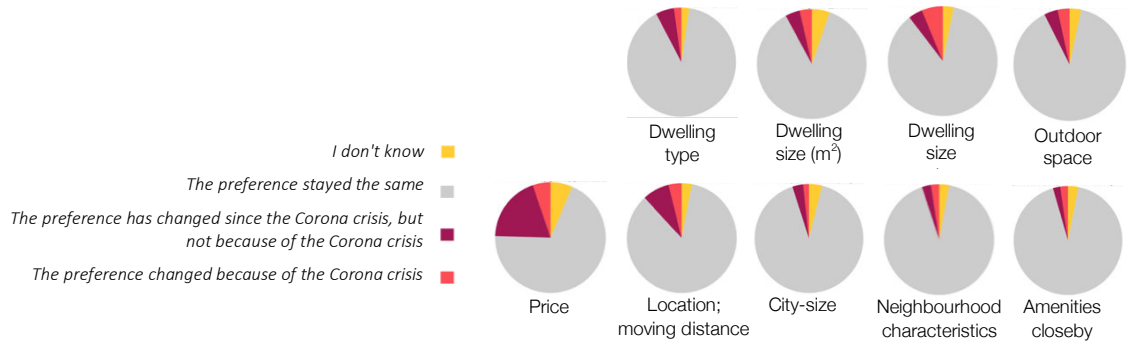


Table 10.1: the changes in preferences of the respondent group (n=1458)

As can be seen in table 10.1, the attribute for which the respondents' preferences were most affected by the Corona crisis is the preferred number of rooms. Additionally, it is striking that for most of the respondents whose preferred number of rooms changed, Corona was indeed the cause. Namely, for 6.2% of the total sample, Corona caused their change in the preference, in comparison to 4.2% of the total sample whose changed preference was *not* caused by Corona. Seeing as the number of rooms is the only attribute for which this is the case, it can be concluded that preferences for this attribute have been significantly affected by the Corona crisis. In other words, the stated housing preferences concerning the number of extra rooms in a dwelling have changed due to the Corona crisis. What this change encompasses and why is elaborated in paragraph 10.2.3.

In total, 17.8% of the respondents (n=260) have indicated that their preferences have changed because of Corona for at least one dwelling attribute (see image 10.1). This means that for a notable part of the respondent group their preferences have changed at least in part due to Corona. However, seeing as nine attributes were researched, the bigger part of their preference remains unaffected by the crisis. Furthermore, for the majority of the respondent group (82.2%), their housing preferences were not changed by the Corona crisis.

Specifically, as illustrated in image 10.2, for 11.0% (n=160 of 1458), Corona has affected their housing preferences for *one* attribute. Forty-five people (3.1% of 1458) have changed their preferences because of Corona for *two* housing attributes, and thirty-five people (2.4% of 1458) for *three* attributes. The remaining 1.3% (n=20, of 1458) experienced changing preferences due to Corona for *four to seven* attributes.

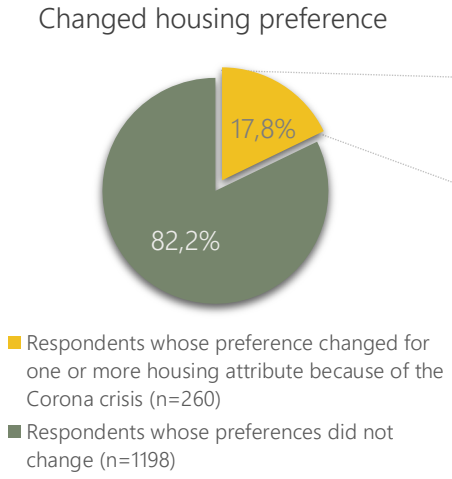


Image 10.1: Changing preferences of the respondent group (n=1458)

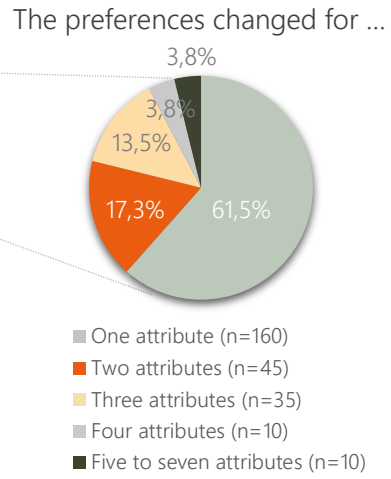


Image 10.2: number of changed housing attribute preferences per respondent whose preferences changed. (n=260)

For 31.1% of the respondents (n=454), at least one or more attributes have been changed since the start of the crisis, but not because of it. The number of respondents who indicated one attribute changed as such is 19.6% (n=286). Furthermore, 6.4% (n=93) discloses that two attributes changed since the crisis started, and 2.5% (n=37) state three attributes changed. The remaining 2.6% (n=38) indicate that four to nine attributes changed since the crisis started but not because of it.

An analysis of how many respondents' preferences did *not* change, shows that 51.1% (n=745) indicate that none of their preferences for the various attributes have changed. Approximately a quarter (24.1%, n=352) have changed their preference for one attribute. Note that this does not disclose whether this is caused by Corona or not. For 9.3% (n=136), two attributes changed. The remaining 15.4% (n=71) of respondents changed their preference for three or more attributes. For twenty-three people (1.6%) their preferences for all attributes have changed.

10.2 What change transpired, and why? – *The dwelling*

10.2.1 Preferred dwelling type

Of the respondent group (n=1458), 90.0% (n=1312) indicate that the dwelling type which they prefer stayed the same since the start of the Corona crisis. For 7.7% (n=112) of the respondents, their preferred dwelling type did change since the Corona crisis. Thirty-two respondents (28.6% of 112) state that their preference changed due to the Corona crisis. This concerns 2.2% of the total sample. The other 80 respondents indicated that Corona was not the reason for the change. Image 10.3 illustrates the change ratios.

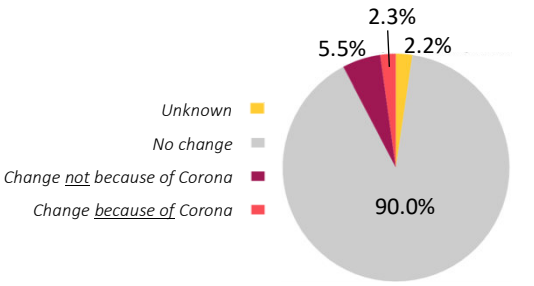


Image 10.3: Change in preferred dwelling type (n=1458)

An analysis of the changed preferences of respondents who indicated that Corona was the cause for change (n=32) shows that both before and after the start of the crisis, four categories of dwelling types are most preferred, i.e., the 'apartment', i.e., flat, multi-story house, upstairs or downstairs apartment, maisonette', the 'terraced dwelling, in-between dwelling, corner house, and quadrant house', the 'semi-detached' dwellings and the 'detached dwellings'. However, within these categories, change in preferences did transpire, as shown in table 10.2. Before the start of the crisis, 43.8% (n=14) indicated preferring a dwelling of the 'apartment' category. Currently, 31.3% (n=10) prefer this dwelling type. Furthermore, 25.0% (n=8) indicated preferring a 'terraced dwelling et cetera' before the Corona crisis started. Currently, 59.4% prefer this dwelling type (n=19). The 'semi-detached dwelling' also gained in popularity; before the crisis, 25.0% (n=8) preferred this type, whereas currently 43.8% (n=14) indicated a preference for it. The 'detached dwelling' increased in popularity from 28.1% (n=9) before the crisis, to 43.8% (n=14) currently.

Even though the farmhouse is not as widely preferred as the just discussed four categories, it did gain in popularity. Whereas before the start of the Corona crisis, none of the respondents who experienced changing preference due to the Corona crisis indicated having a preference in a farmhouse, currently, this number has risen to 15.6%. Likewise, 15.6% indicated currently preferring a dwelling with a separate office or business space, whereas before the crisis, none of these respondents preferred this type. One respondent indicated having a new preference for a life-course proof dwelling due to the Corona crisis.

Preferred dwelling type (Multiple responses possible)	Before		Currently	
Apartment, i.e., flat, multi-story house, upstairs or downstairs apartment, maisonette	14	*43.8%*	10	*31.3%*
Terraced dwelling, in-between dwelling, corner house, and quadrant house	8	*25.0%*	19	*59.4%*
Semi-detached dwelling	8	*25.0%*	14	*43.8%*
Detached dwelling	9	*28.1%*	14	*43.8%*
Farmhouse	0	*0.0%*	5	*15.6%*
Dwelling with a separate office or business space	0	*0.0%*	5	*15.6%*
Life-cycle proof dwelling	0	*0.0%*	1	*3.1%*

Table 10.2: Changes in dwelling type preferences caused by the Corona crisis (n=32).

When comparing the changes in housing preferences between the group of respondents who indicated their preferences changed because of Corona, and the respondents who indicated the change was not a result from the crisis (n=80), similarities are visible. As shown in table 10.3, the dwelling types of the 'terraced dwelling', the 'semi-detached' and the 'detached dwelling' all gain in popularity for both groups of respondents. Likewise, the farmhouse and the dwelling with a separate office or business space gained in pupolarity. However, the number of respondents who preferred a dwelling of the 'apartment' type stayed the same for the respondents who stated Corona was not the cause for change, whereas this dwelling type lost in popularity for the people who did name Corona the cause.

Preferred dwelling type (Multiple responses possible)	Before		Currently	
Apartment, i.e., flat, multi-story house, upstairs or downstairs apartment, maisonette	32	*40.0%*	32	*40.0%*
Terraced dwelling, in-between dwelling, corner house, and quadrant house	26	*32.5%*	33	*41.3%*
Semi-detached dwelling	23	*28.8%*	42	*52.5%*
Detached dwelling	18	*22.5%*	32	*40.0%*
Farmhouse	3	*3.8%*	7	*8.8%*
Dwelling with a separate office or business space	2	*2.5%*	6	*7.5%*
Life-cycle proof dwelling	1	*1.3%*	0	*0.0%*
Housing unit with shared kitchen and/or bathroom	4	*5.0%*	5	*6.3%*

Table 10.3: Changes in dwelling type preferences which were *not* caused by the Corona crisis (n=80).

Why did the preferred dwelling type change?

Table 10.4 shows the quantified reasons respondents provided for their changed preferred dwelling type, the comparison between the respondents whose preferences changed because of Corona and the respondents whose preferences were changed but not because of it, shows the motives for change were indeed different. It appears that people whose preferences changed since the start of the crisis but *not* because of it, more often indicate currently having more financial possibilities as the cause for the changed dwelling preference. Respondents for who Corona *did* cause them to currently prefer a different dwelling type then they did before, often mention working from home and the wish for a garden or nature close by as the main reason for the changed preference. These changed preferences cause the smaller dwelling types without outdoor space, such as apartments, to become less preferred, while the more spacious dwellings who do possess these attributes gain in popularity. As one respondent stated: *"Before corona, I did consider an apartment with only one bedroom. Not anymore. I need a place and space where I can put my desk, a good chair and a large screen."*. He furthermore explains that he "*really wouldn't consider a house without outside space, a balcony or something*". His opinion summarized the general sentiment of the respondents. Finally, it appears that due to Corona respondents have become beware of the contamination risks posed by shared and/or public spaces. As such, some respondents state that *"Because of Covid, [they] would like to avoid elevators and stairs*".

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=57)*	*The preference changed because of the Corona crisis (n=30)*
Losing job	*0.0*	*5.6%*
Becoming older	*13.1%*	*0.0%*
Changing household composition	*8.2%*	*5.6%*
More financial possibilities	*19.7%*	*2.8%*
High housing prices	*6.6%*	*13.9%*
Shortage of housing supply	*3.3%*	*2.8%*
Working from home	*13.1%*	*16.7%*
Nuisance	*9.8%*	*0.0%*
The wish for a garden / nature	*11.5%*	*38.9%*
Other	*14.8%*	*13.9%*

Table 10.4: Reasons for the change in dwelling type preferences, differentiated on changes *because* of Corona and *since* Corona.

10.2.2 Preferred dwelling size – surface

Of the 1458 respondents, 86.8% (n=1265) indicate having experienced no change in the preferred dwelling size, and 5.3% state not knowing. For a 115 people (7.9%) their preferences for the dwelling size did change. For 52 people (3.6% of 1265) the change was caused by Corona. For the other 4.3% (n=63) Corona was not the cause. The change ratios are illustrated in image 10.4.

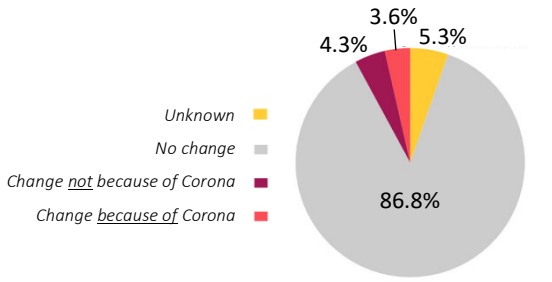


Image 10.4: Change in preferred dwelling size (m2) (n=1458)

An analysis of the changes in preferences of respondents who indicated that Corona was the cause for the change (n=51, missing value=1) is shown in table 10.5. It shows that 66,7% (n=34) of these respondents currently prefer one size-range bigger than they preferred before the Corona crisis. This is highlighted in yellow. In total, 74.6% (n= 38) indicate wanting a bigger dwelling than they preferred before. Eight respondents (15,8%) Indicate currently wanting a smaller dwelling than they preferred before the crisis.

			We willen graag weten hoe groot de woning moet zijn. Welk oppervlakte zoek je?					
			2 50 m2 tot 75 m2	3 75 m2 tot 100 m2	4 100 m2 tot 125 m2	5 125 m2 tot 150 m2	6 150 m2 en groter	Total
Welk oppervlak zocht je voor de Corona crisis?	0 Weet ik niet	Count	0	1	0	0	1	2
		% of Total	0.0%	2.0%	0.0%	0.0%	2.0%	3.9%
	2 50 m2 tot 75 m2	Count	2	8	0	1	0	11
		% of Total	3.9%	15.7%	0.0%	2.0%	0.0%	21.6%
	3 75 m2 tot 100 m2	Count	1	0	11	1	0	13
		% of Total	2.0%	0.0%	21.6%	2.0%	0.0%	25.5%
	4 100 m2 tot 125 m2	Count	0	3	0	8	2	13
		% of Total	0.0%	5.9%	0.0%	15.7%	3.9%	25.5%
	5 125 m2 tot 150 m2	Count	0	0	2	0	7	9
		% of Total	0.0%	0.0%	3.9%	0.0%	13.7%	17.6%
	6 150 m2 en groter	Count	0	1	0	1	1	3
		% of Total	0.0%	2.0%	0.0%	2.0%	2.0%	5.9%
Total		Count	3	13	13	11	11	51
		% of Total	5.9%	25.5%	25.5%	21.6%	21.6%	100.0%

Table 10.5: Changes in dwelling size (m2) preferences caused by the Corona crisis [Crosstabulation of the preferences *before* and *during* the crisis of respondents whose preferences changed because of it] (n=51. Missing value=1).

When comparing these changes in preferences to the changes as measured by the respondents who stated that Corona was *not* the cause, which is shown in table 10.6, it appears that the trend is similar, although less strong. Of the 63 respondents in this group, 39.6% (n=25) currently prefer one size-range bigger than they preferred before the Corona crisis (highlighted in yellow), and in total, 52.4% (n=33) indicate wanting a bigger dwelling than they preferred before. The group wanting a smaller dwelling than before is more substantial here; 30.2% (n=19) of the respondents having experienced changing preferences of which Corona was *not* the cause currently want a smaller dwelling. Of nine respondents (14.4%) the preference changed but still falls within the same size-range as before.

			We willen graag weten hoe groot de woning moet zijn. Welk oppervlakte zoek je?					
			2 50 m2 tot 75 m2	3 75 m2 tot 100 m2	4 100 m2 tot 125 m2	5 125 m2 tot 150 m2	6 150 m2 en groter	Total
Welk oppervlak zocht je voor de Corona crisis?	0 Weet ik niet	Count	1	0	0	0	1	2
		% of Total	1.6%	0.0%	0.0%	0.0%	1.6%	3.2%
	1 Tot 50 m2	Count	2	2	0	0	0	4
		% of Total	3.2%	3.2%	0.0%	0.0%	0.0%	6.3%
	2 50 m2 tot 75 m2	Count	1	6	2	1	0	10
		% of Total	1.6%	9.5%	3.2%	1.6%	0.0%	15.9%
	3 75 m2 tot 100 m2	Count	5	2	7	2	0	16
		% of Total	7.9%	3.2%	11.1%	3.2%	0.0%	25.4%
	4 100 m2 tot 125 m2	Count	0	6	3	4	1	14
		% of Total	0.0%	9.5%	4.8%	6.3%	1.6%	22.2%
	5 125 m2 tot 150 m2	Count	2	0	1	1	6	10
		% of Total	3.2%	0.0%	1.6%	1.6%	9.5%	15.9%
	6 150 m2 en groter	Count	0	1	2	2	2	7
		% of Total	0.0%	1.6%	3.2%	3.2%	3.2%	11.1%
Total		Count	11	17	15	10	10	63
		% of Total	17.5%	27.0%	23.8%	15.9%	15.9%	100.0%

Table 10.6: Changes in dwelling size (m2) preferences which were *not* caused by the Corona crisis [Crosstabulation of the preferences *before* and *during* the crisis of respondents whose preferences changed but *not* because of it] (n=63).

Why did the preferred dwelling size (surface) change?

Table 10.7 shows the quantified reasons respondents provided for their changed preferred dwelling size (surface). The main reason for the respondents whose preference changed because of Corona, and who currently often want one size range bigger than before, is the need for a workplace. Additionally, respondents indicate that the working from home and as such being home so much caused them to live in each other's pockets and to wish for more living space.

The respondents whose preferred amount of dwelling surface increased, but not because of the crisis, indicate that reasons for this are that household compositions increased in number due to e.g., marriage or birth, and/or the financial possibilities increased, e.g., because of promotions or marriage (combined income). These respondents thus need more space or are able to afford more space. On the other hand, the respondents whose preferred amount of dwelling surface decreased, but not due to the crisis, explain this is because of the household composition decreasing in number due to e.g., divorce or the deceasing of a household member, and/or the decreasing of financial possibilities. These respondents thus need less space or are able to afford less. The latter is caused by loss of job and/or by the increasing of housing prices. As one respondent elaborates*: "The houses have risen a lot since the start of the corona crisis, so a larger living space is no longer financially possible.".*

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=45)*	*The preference changed because of the Corona crisis (n=45)*
Personal circumstances	*2.2%*	*2.2%*
Changing household composition	*34.8%*	*4.3%*
Financial reasons	*30.4%*	*10.9%*
In need of a workplace	*13.0%*	*56.5%*
Living in each other's pockets	*6.5%*	*15.2%*
Garden / nature	*2.1%*	*6.5%*
Other	*10.9%*	*4.3%*

Table 10.7: Reasons for the change in dwelling size (surface) preferences, differentiated on changes *because* of Corona and *since* Corona.

10.2.3 Dwelling size – number of rooms

The number of rooms available for sleeping or other activities such as working which the respondents prefer, have changed for 10.4% (n=152) of the respondent group (n=1458). Approximately two-thirds of them (n=91, 6.2% of 1458) state their preference changed because of Corona. The other 4.2% (n=61) indicate that Corona wasn't the cause for change. Since 3.2% (n=47) of the respondents indicate not knowing whether their preference changed, this leaves 86.4% (n=1259) of the respondents whose preference stayed the same. The change ratios are illustrated in image 10.5.

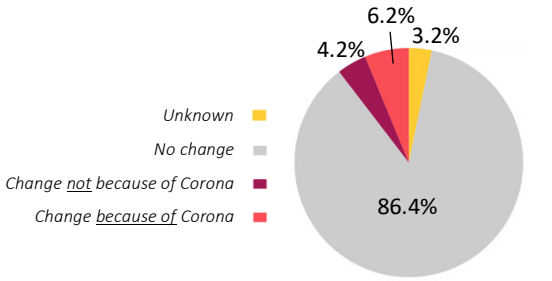


Image 10.5: Change in preferred dwelling size (n rooms) (n=1458)

As can be seen in table 10.8, of the respondents who stated that Corona caused the change in their preference for the number of rooms (n=91), 90.1% (n=82) state they now want one room more than they did before (indicated in yellow). In total, 91.2% currently prefer obtaining more rooms than they preferred before. Six respondents (6.6%) indicated wanting less rooms.

Count

		Hoeveel slaap en/of werkkamers moet je nieuwe woning minimaal hebben?					
		2 2 kamers	3 3 kamers	4 4 kamers	5 5 kamers	6 6 kamers	Total
?Hoeveel slaap en/of werkkamers wilde je minimaal hebben voor de Corona crisis?	1 1 kamer	12	0	0	0	0	12
	2 2 kamers	2	29	0	0	0	31
	3 3 kamers	1	0	28	0	0	29
	4 4 kamers	0	1	0	12	1	14
	5 5 kamers	0	0	1	0	1	2
	6 6 kamers	1	0	0	0	0	1
	7 Meer dan 6 kamers	0	0	1	1	0	2
Total		16	30	30	13	2	91

Table 10.8: Changes in dwelling size (n rooms) preferences caused by the Corona crisis [Crosstabulation of the preferences *before* and *during* the crisis of respondents whose preferences changed because of it] (n=91).

The change in the preferred number of rooms of respondents who stated that Corona was *not* the cause shows a less clear trend, as shown in table 10.9. Of these respondents (n=61), 52.5% (n=32) currently prefer obtaining one more room than they did before, and 26.2% (n=16) prefer obtaining one room less (highlighted in yellow). In total, 59.0% (n=36) of these respondents currently prefer more rooms than before, and 29.5% (n=18) currently prefer less rooms. Seven respondents (11.5%) stated that their preference concerning the number of rooms changed, but their answers concerning what this change was, were inconclusive.

Count

		Hoeveel slaap en/of werkkamers moet je nieuwe woning minimaal hebben?						
		1 1 kamer	2 2 kamers	3 3 kamers	4 4 kamers	5 5 kamers	6 6 kamers	Total
?Hoeveel slaap en/of werkkamers wilde je minimaal hebben voor de Corona crisis?	1 1 kamer	0	7	0	1	0	0	8
	2 2 kamers	3	1	16	2	0	0	22
	3 3 kamers	0	7	4	8	1	0	20
	4 4 kamers	0	2	5	1	0	0	8
	5 5 kamers	0	0	0	0	0	1	1
	6 6 kamers	0	0	0	0	0	1	1
	7 Meer dan 6 kamers	0	0	0	0	0	1	1
Total		3	17	25	12	1	3	61

Table 10.9: Changes in dwelling size (n rooms) preferences which were *not* caused by the Corona crisis [Crosstabulation of the preferences *before* and *during* the crisis of respondents whose preferences changed but *not* because of it] (n=61)

Why did the preferred dwelling size (*n* rooms) change?

Table 10.10 shows the quantified reasons respondents provided for their changed preferred dwelling size (*n* rooms). Respondents who, because of the Corona crisis, currently prefer a different number of extra rooms then before and in general want *one* room more, often state the reason for this is the need for a workplace. One respondent elucidates that *"since the corona crisis, it has been 100% working from home for me. I have now arranged the second bedroom as an office. […] I need a place and space where I can put my desk, a good chair and a large screen."*. The respondents of this group furthermore often state that the extra room is not a wish but that it's a requirement: *"Before corona I was considering an apartment with only one bedroom. Not anymore."*

The group of respondents whose preferred number of rooms changed, but *not* because of Corona likewise mention the need for a workplace as a reason, but not as frequent. The main reasons for the changed preference among these respondents are changes in the household composition. These are e.g., starting to live together, marriage or divorce, birth or deceasing, or children moving in and out of the house.

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=44)*	*The preference changed because of the Corona crisis (n=87)*
Changing household composition	*43.5%*	*2.2%*
Financial reasons	*13.0%*	*2.2%*
In need of a workplace	*23.9%*	*88.9%*
In need of a place to workout	*2.2%*	*2.2%*
Other	*17.4%*	*4.4%*

Table 10.10: Reasons for the change in dwelling size (*n* rooms) preferences, differentiated on changes *because* of Corona and *since* Corona.

10.2.4 Outdoor space

The number of respondents whose preferences concerning the outdoor space has changed since the start of the Corona crisis is 7.7% (n=108); Fifty people (3.4%) state their preference changed due to the Corona crisis, whereas fifty-eight people (4.0%) state the crisis was not the cause. 3.3% (n=48) of the respondents don't know whether their preferences changed, and 89.3% (n=1302) state they experienced no change in their preferences regarding the outdoor space. The change ratios are illustrated in image 10.6.

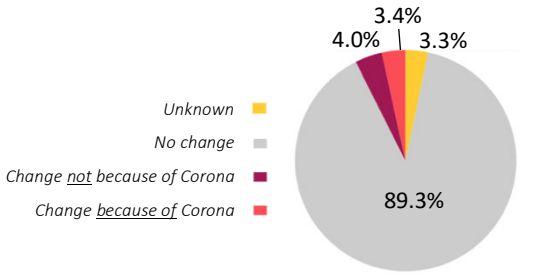


Image 10.6: Change in preferred outdoor space (n=1458)

Of the respondents who stated that the Corona crisis was the cause for the change in their preferred outdoor space, the majority indicated that both before and after the start of the crisis they preferred a balcony or a garden, as can be seen in table 10.11. However, after the start of the crisis, the balcony was less preferred than before; 27.3% of the respondents (n=12) currently prefer a balcony, whereas 47.7% (n=21) preferred one before the start of the crisis. The garden rose in popularity; currently 90.9% of these respondents (n=40) prefer a garden, in contrast to 65.9% (n=29) before the start of the crisis.

Preferred outdoor space (Multiple responses possible)	Before		Currently	
Preference is a (Bigger) Garden	29	*65.9%*	40	*90.9%*
Preference is a (Bigger) Balcony	21	*47.7%*	12	*27.3%*
Preference is a (Bigger) (Court) yard (Dutch: Erf)	2	*4.5%*	8	*18.2%*
Preference is a (Bigger) (Court)yard (Dutch: Binnenplaats)	1	*2.3%*	3	*6.8%*
Preference is a (Bigger) Patio	1	*2.3%*	6	*13.6%*
Other				

Table 10.11: Changes in outdoor space preferences caused by the Corona crisis (n=50).

As can be seen in table 10.12, among the respondents whose preferences changed since the start of the crisis but not because of the crisis (n=51, Missing values=7), the garden is currently more preferred than before. Before the crisis, 58.8% (n=30) of the respondents stated they preferred a garden, whereas currently, 78.4% (n=40) prefer this. Before the start of the crisis, the balcony was preferred by 41.2% (n=21) of these respondents while currently it is preferred by 39.2% (n=20) of them. As such, this group displays similar trends in the changed preference for outdoor space as the group of respondents who were influenced by Corona, although less strong.

Preferred outdoor space (Multiple responses possible)	Before		Currently	
Preference is a (Bigger) Garden	30	*58.8%*	40	*78.4%*
Preference is a (Bigger) Balcony	21	*41.2%*	20	*39.2%*
Preference is a (Bigger) (Court) yard (Dutch: Erf)	6	*11.8%*	7	*13.7%*
Preference is a (Bigger) (Court)yard (Dutch: Binnenplaats)	2	*3.9%*	6	*11.8%*
Preference is a (Bigger) Patio	5	*9.8%*	7	*13.6%*
Other	3	*5.9%*	6	*11.8%*

Table 10.12: Changes in outdoor space preferences which were *not* caused by the Corona crisis (n=51. Missing values=7).

Why did the preferred outdoor space change?

Table 10.13 shows the quantified reasons respondents provided for their changed preferred outdoor space. Among the respondents for who Corona caused them to prefer a different kind of outdoor space and among which the garden and balcony increased in popularity, three out of four mention a need for greenery, space and/or freedom as the reason for the change. One respondent elucidated *"I keep in mind that a garden is very nice when you are hardly allowed to leave your house [...] in case these kinds of measures need to be taken more often due to possible future viruses"*. Another elucidated that "*Due to the lack of outdoor activities I now look for amusement in gardening.".* A third respondent explains the type of outdoor space is subsidiary to it *"being spacious and well located in relation to the sun. Especially now that you are at home a lot, sunlight is super important for your health and positivity"*. These respondents thus view the outdoor space as something that provides social possibilities, entertainment and which supports mental health.

Respondents whose preferred outdoor space changed, but not due to Corona, more often mention financial reasons. For example, as one respondent explains: *"I think it's important to be able to go outside. Because the housing market is so difficult, I will settle for any type of outdoor space. This has not changed because of corona, but because of the housing market."*

Even though respondents of both groups mention that the type of outdoor space is subsidiary, and the requisite is having outdoor space in the first place, people in general value a garden more than other types of outdoor space. This is also visible in the decreased popularity of the balcony, as well as in the decreased popularity of dwelling types containing a balcony, such as the apartment. It appears that people settle for other types of outdoor space besides the garden due to constraints, e.g., financial or supply constraints.

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=37)*	*The preference changed because of the Corona crisis (n=37)*
Changing household composition	*13.9%*	*0.0%*
Financial reasons	*22.2%*	*2.7%*
Working from home	*8.3%*	*0.0%*
In need of quiet, tranquility, privacy	*2.8%*	*8.1%*
In need of greenery, space, freedom	*30.6%*	*75.7%*
Other	*22.2%*	*13.5%*

Table 10.13: Reasons for the change in outdoor space preferences, differentiated on changes *because* of Corona and *since* Corona.

10.2.5 Price range

The price range within which people prefer to find a dwelling changed for a significant number of people; 24.5% (n=358) indicate their preferred price has changed since the start of the Corona crisis. However, the majority (n=282, 19.3% of 1458) indicate that their change in preference is not due to Corona. The other 5.2% (n=76) state that Corona was indeed the cause. For 69.0% of the respondents (n=1006), their preferred price range stayed the same. A group of 6.4% (n=94) indicate not knowing whether their preferred price range has changed since the Corona crisis. The change ratios are illustrated in image 10.7.

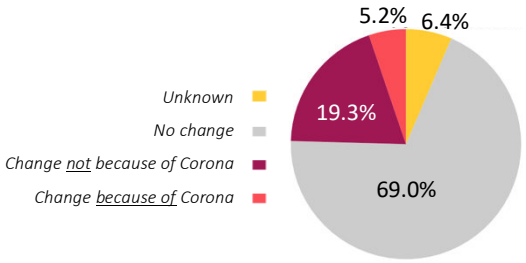


Image 10.7: Change in preferred price range (n=1458)

As can be seen in table 10.14, of the respondents who indicated that the preferred price range changed because of Corona (n=76), the majority are currently in search of a dwelling which is in a higher price range than they preferred before the start of the crisis. 57.9% (n=44) is currently searching for a dwelling which is *one* price-range higher (the top yellow highlight in table 10.14). In total 64.5% (n=49) are currently preferring a higher price range than before (one or more price range higher). In contrast, 17.1% (n=13) currently prefer one price range lower (the bottom highlight in table 10.14). In total, eighteen people (23.7%) currently prefer a lower price range then they did before. A tenth (10.5%, n=8) of the people who state their preferred price has changed because of Corona indicates that the price as currently preferred falls within the same range as the price preferred before the crisis.

		In welke prijsklasse zoek je een woning? Houd hierbij rekening met je financiële situatie										
		1 t/m €150.000	2 €150.000 - €200.000	3 €200.000 - €250.000	4 €250.000 - €300.000	5 €300.000 - €400.000	6 €400.000 - €600.000	7 €600.000 - €800.000	8 €800.000 - €900.000	9 €900.000 - €1.000.000	10 €1.000.000 of hoger	Total
In welke prijsklasse zocht je een woning voor de Corona crisis?	1 t/m €150.000	1	0	0	0	0	0	0	0	0	0	1
	2 €150.000 - €200.000	0	1	6	1	0	0	0	0	0	0	8
	3 €200.000 - €250.000	0	5	1	11	1	0	0	0	0	0	18
	4 €250.000 - €300.000	0	1	2	1	18	0	0	0	0	0	22
	5 €300.000 - €400.000	0	1	0	1	0	6	0	0	0	0	8
	6 €400.000 - €600.000	0	0	0	1	3	4	2	0	0	0	10
	7 €600.000 - €800.000	0	0	0	0	1	2	0	1	1	2	7
	8 €800.000 - €900.000	0	0	0	1	0	0	0	0	0	0	1
Total		1	8	9	16	23	12	2	1	1	2	75

Table 10.14: Changes in price range preferences caused by the Corona crisis [Crosstabulation of the preferences *before* and *during* the crisis of respondents whose preferences changed because of it] (n=76).

When analyzing how the preferences changed of the respondents who stated that Corona was *not* the cause for this, the trend leans more strongly in the direction of preferring a higher price range. This can be seen in table 10.15. Among these respondents (n=279, missing values=3), 79.9% (n=223) currently are in search of a dwelling in a higher price range than before the start of the crisis. 73.0% (n=203 out of 279) searches for a dwelling which is *one* price range higher (the top yellow highlight in table 10.15). Solely twenty-four people (8.6%) currently prefer a dwelling in a lower price range, of which nineteen people (6.8% out of 279) search for *one* price range lower (the bottom yellow highlight). 7.9% (n=22) States their preferred price has changed but that the price as currently preferred falls within the same range as before.

		In welke prijsklasse zoek je een woning? Houd hierbij rekening met je financiële situatie										
		1 t/m €150.000	2 €150.000 – €200.000	3 €200.000 – €250.000	4 €250.000 – €300.000	5 €300.000 – €400.000	6 €400.000 – €600.000	7 €600.000 – €800.000	8 €800.000 – €900.000	9 €900.000 – €1.000.000	10 €1.000.000 of hoger	Total
In welke prijsklasse zocht je een woning voor de Corona crisis?	0 Weet ik niet / wil ik niet zeggen	0	0	2	2	2	3	1	0	0	0	10
	1 t/m €150.000	1	8	2	1	0	0	0	0	0	0	12
	2 €150.000 – €200.000	0	1	22	3	2	1	0	0	0	0	29
	3 €200.000 – €250.000	0	5	1	33	5	2	0	0	0	0	46
	4 €250.000 – €300.000	0	1	6	4	56	1	0	0	0	0	68
	5 €300.000 – €400.000	0	0	0	7	9	66	2	0	0	0	84
	6 €400.000 – €600.000	0	1	1	1	1	6	13	1	0	0	24
	7 €600.000 – €800.000	0	0	0	0	0	0	0	3	0	0	3
	8 €800.000 – €900.000	0	0	0	0	0	1	0	0	1	0	2
	10 €1.000.000 of hoger	0	0	0	0	0	0	0	0	0	1	1
Total		1	16	34	51	75	80	16	4	1	1	279

Table 10.15: Changes in price range preferences which were *not* caused by the Corona crisis [Crosstabulation of the preferences *before* and *during* the crisis of respondents whose preferences changed but *not* because of it] (n=279, Missing values=3).

Why did the preferred price range change?

Table 10.16 shows the quantified reasons respondents provided for their changed preferred price range. As can be seen, respondents from both groups often point out the increase in housing prices as the reason for the changed target price. The effect of this goes in two directions. On the one hand, there are respondents who, due to the increase in prices, stayed with their housing preferences but increased their budget. Others stay with their budget and adjust their housing preferences. There is thus a relation between the latter group of respondents whose target price stayed similar and the respondents who indicated that their targeted dwelling size (surface) decreased due to other factors then Corona.

Respondents whose preferred price range changed due to Corona, more often mention having *fewer* financial possibilities. An example is a respondent who elucidated losing income due to the crisis: *"Because I can no longer carry out my work (travel industry) since the crisis, I am forced to look for a home, which are currently being sold like hot cakes, in a different price range"*. In contrast, respondents whose preferences changed *not* due to Corona more often have *more* financial possibilities. Reasons mentioned are among others having more surplus on the current dwelling, increase in income and having obtained a promotion. The difference between having fewer or more financial possibilities between the respondents whose preferences changed due to, or *not* due to Corona, explains the difference in targeted price range between them (among the respondents whose change was not caused by Corona, a higher percentage is in search of a higher price range, namely 79.9% in comparison to 64.5%). Furthermore, since most people whose financial possibilities decreased appointed Corona the cause, while people who experienced an increase in financial possibilities did not, it appears that respondents are more likely to point out Corona as the cause for a *decrease* then for an *increase*.

There is also difference in the *number* of respondents who indicated having increased financial possibilities and the number who indicated having fewer financial possibilities. The group having increased possibilities is relatively twice as big as the group having fewer financial possibilities. A possible explanation could be the high education level of the respondent group. Highly educated people more often work in sectors profiting from the crisis and encompassing many office jobs, which were, as mentioned in paragraph 2.2.2, possible to continue being executed from home. Since the respondent group is highly educated, this would explain why more respondents have *increased* financial possibilities then *decreased*.

Paragraph 14.1 further discusses possible reasons for the discrepancy between the two groups of respondents having a changed preferred price range.

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=248)*	*The preference changed because of the Corona crisis (n=69)*
Changing household composition	*2.7%*	*1.4%*
More financial possibilities	*41.2%*	*11.3%*
Less financial possibilities	*4.3%*	*23.9%*
Price increase	*46.3%*	*52.1%*
In need of a bigger dwelling	*1.6%*	*8.5%*
Other	*3.9%*	*2.8%*

Table 10.16: Reasons for the change in price range preferences, differentiated on changes *because* of Corona and *since* Corona.

10.3 What change transpired, and why? – *The living environment*

10.3.1 Location; moving distance

The preferred location to where people wish to move changed for 11.8% (n=173) of the 1458 respondents. For 8.0% (n=117) this change was not caused by the Corona crisis. For the remaining 3.8% (n=56), the Corona crisis was indeed the reason behind the change. The preferred location stayed the same for 85.2% of the respondents (n=1242). A group of 2.9% (n=43) indicate not knowing whether their preference concerning the location has changed since the start of the crisis. The change ratios are illustrated in image 10.8.

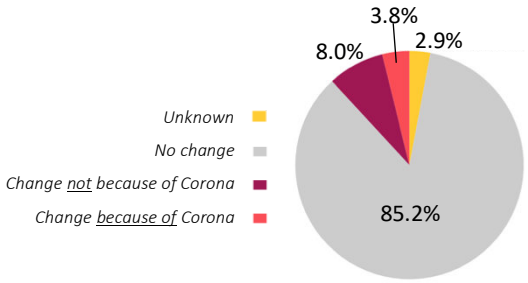


Image 10.8: Change in preferred location; moving distance (n=1458)

As can be seen in table 10.17, the respondents whose preference changed because of the Corona crisis, currently consider more often moving farther away from the current place of residence than before. The number of people who consider moving within the current municipality stayed approximately the same; Before the start of the crisis 29 people (51.8%) considered this option, and currently 32 people (57.1%) consider this. However, it appears that moving to another municipality has gained in popularity among this group of respondents. Before the start of the crisis, 30.4% (n=17) considered moving to another municipality within the present province, in contrast to 71.4% (n=40) currently. Moving to another province also gained in popularity; before the crisis 12.5% (n=7) considered moving to another province. Currently, 39.3% (n=22) consider this.

Preferred moving distance (Multiple responses possible)	Before		Currently	
Within the current neighborhood	9	*16.1%*	9	*16.1%*
Within the current district	9	*16.1%*	10	*17.9%*
Within the current municipality	29	*51.8%*	32	*57.1%*
To another municipality within the current province	17	*30.4%*	40	*71.4%*
To another province	7	*12.5%*	22	*39.3%*
To another country	2	*3.6%*	2	*3.6%*

Table 10.17: Changes in moving distance preferences, caused by the Corona crisis (n=56).

When comparing these finding to the preference-changes of the respondents who stated that Corona was *not* the cause, as shown in table 10.18, similar trends are visible. Nearly half of these respondents consider moving within the current municipality, both before (57.3%, n=67) and after the start of the crisis (45.3%,

n=53). Moreover, similar to the previous group of respondents, moving to another municipality within the current province is currently more often preferred (66.7%, n=78) than before (31.6%, n=37). Lastly, moving to another province has also become more often preferred; Currently, 40.2% (n=47) prefer this option, in comparison to the 20.5% (n=24) who preferred this before the start of the crisis.

Preferred moving distance (Multiple responses possible)	Before		Currently	
Within the current neighborhood	20	*17.1%*	18	*15.4%*
Within the current district	20	*17.1%*	17	*14.5%*
Within the current municipality	67	*57.3%*	53	*45.3%*
To another municipality within the current province	37	*31.6%*	78	*66.7%*
To another province	24	*20.5%*	47	*40.2%*
To another country	4	*3.4%*	3	*2.6%*

Table 10.18: Changes in moving distance preferences, *not* caused by the Corona crisis (n=117).

Why did the preferred moving distance change?

Table 10.19 shows the quantified reasons respondents provided for their changed preferred moving distance. As can be seen, a large part of the respondents whose preferred moving distance changed due to Corona mention working from home in their reasoning. For example, a respondent explained: "*Now I can live physically far from my work, and that offers more possibilities*". Another stated: *"Going to the office five days a week is no longer going to happen, so this has expanded my search area"*.

Respondents whose preferences changed *not* due to Corona mention financial reasons and the available housing supply in their explanations. Respondents mentioned for example that *"due to the difficult housing market, I have expanded my search area*", and "*because the homes in the city have become way too expensive, […] I'm now looking in the village*".

Since the trends in the changed preferred moving distance are so similar between the respondents who stated Corona caused their change, and the respondents who stated Corona did not, it appears that the above-mentioned reasons are influencing one another. Without the possibility of working from home, respondents would not have been able to consider moving farther away, even if the preferred dwelling was not available or affordable in the current place of residence. However, without the increasing housing prices and the shortage of housing supply, respondents would possibly not consider moving farther away either, irrespective of the possibility of working from home. In order to determine the effect of Corona on the moving distance, further research is thus required.

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=96)*	*The preference changed because of the Corona crisis (n=48)*
Personal circumstances	*30.6%*	*0.0%*
Changing household composition	*7.1%*	*4.0%*
Financial reasons / housing supply	*28.6%*	*14.0%*
Facilities / friends and family close by	*7.1%*	*12.0%*
Working from home	*9.2%*	*42.0%*
More tranquility	*4.1%*	*8.0%*
Nature / Space	*9.2%*	*12.0%*
Other	*4.1%*	*0.0%*

Table 10.19: Reasons for the change in moving distance preferences, differentiated on changes *because* of Corona and *since* Corona.

10.3.2 City-size

Of the respondent group (n=1458), 91.2% (n=1329) of the respondents did not change their preference concerning the size of the city where they wish to live. For seventy-two people (4.9%) the preference changed; 3.2% (n=47) state the change has not been caused by the Corona crisis, and 1.7% (n=25) indicated the change was indeed caused by the Corona crisis. A group of 3.9% (n=57) does not know whether their preferences concerning the city-size changed. The change ratios are shown in image 10.9.

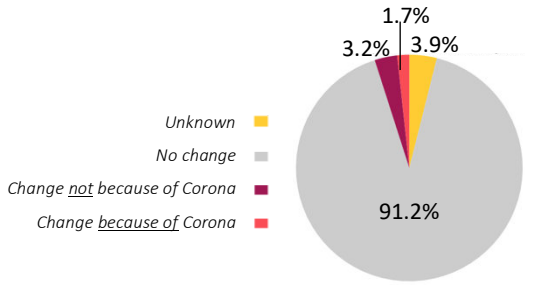


Image 10.9: Change in preferred city-size (n=1458)

As table 10.20 shows, of the twenty-five respondents who state that Corona caused their change in preference, 80.0% (n=20) considered a dwelling in a normal-sized city before the crisis started. This is in contrast to the 24.0% (n=6) who currently consider a normal-sized city. Additionally, 20% (n=5) previously considered a dwelling in a large city in contrast to 12.0% (n=3) currently. On the other hand, 28.0% (n=7) previously considered a small city in contrast to 40.0% (n=10) now. Furthermore, whereas 12.0% (n=3) preferred a (large) village before the start of the crisis, currently 76.0% (n=19) of the respondents consider a dwelling there. Lastly, whereas one respondent (4.0%) considered a small village before the crisis, currently nine respondents do (36.0%).

Preferred city-size (Multiple responses possible)	Before		Currently	
Large city	5	*20.0%*	3	*12.0%*
Normal-sized city	20	*80.0%*	6	*24.0%*
Small city	7	*28.0%*	10	*40.0%*
(Large) village	3	*12.0%*	19	*76.0%*
Small village	1	*4.0%*	9	*36.0%*

Table 10.20: Changes in city-size preferences, caused by the Corona crisis (n=25).

In the preference-changes of the respondents whose change was *not* caused by the Corona crisis (n=47) as shown in table 10.21, similar trends are visible safe for the preference for living in a normal-sized city. This is both before and after the start of the crisis preferred by seventeen respondents (36.2%). The large city was preferred by 29.8% (n=14) of these respondents, in contrast to currently 8.5% (n=4). Similar to the groups of respondents whose changing preferences were caused by Corona, this group of respondents' preferences for a small-sized city increased from 29.8% (n=14) before the crisis started, to 61.7% (n=29) currently. Additionally, whereas 19.1% (n=9) preferred a dwelling in a (large) village before the start of the crisis, 59.6% (n=28) consider this now. Lastly, 8.5% (n=4) considered a small village before the Corona crisis started, in comparison to 23.7% (n=11) currently. Furthermore, 36.2% (n=17) considered a normal-sized city before the start of the crisis, and 36.2% prefer this now

Preferred city-size (Multiple responses possible)	Before		Currently	
Large city	14	*29.8%*	4	*8.5%*
Normal-sized city	17	*36.2%*	17	*36.2%*
Small city	14	*29.8%*	29	*61.7%*
(Large) village	9	*19.1%*	28	*59.6%*
Small village	4	*8.5%*	11	*23.4%*

Table 10.21: Changes in city-size preferences, *not* caused by the Corona crisis (n=47).

Why did the preferred city size change?

Table 10.22 shows the quantified reasons respondents provided for their changed preferred city size. As is visible, reasons mentioned as quite similar in both groups. In both groups of respondents, one in three people mentioned wanting more tranquility in their reasoning for the changed preference. A respondent living in an urban area for who Corona caused the wish for more tranquility explained the following: *"I now experience how nice it is that it's a bit quieter in the city without tourists, and I am dreading the return*

of crowds." In like manner, another respondent living in a less urban area also elucidated missing tranquility: *"It's gotten so ridiculously busy in our little town. And even more so because of the corona crisis."*. Among the respondents who currently wish for more tranquility, but for whom Corona did not cause this preference, age is often mentioned in the reasoning: *"We need more peace, nature and small scale. This is not because of corona but rather because of our age*".

A reason related to the wish for more tranquility which is mentioned more often among respondents whose preferred city size changed due to Corona, is the nuisance, disturbance and confinement which the current living environment supplies them. As a respondent explains: *"I now notice that it's more pleasant to have a lot of outdoor space and greenery. I feel trapped in a city."*.

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=29)*	*The preference changed because of the Corona crisis (n=15)*
Personal circumstances	*14.3%*	*0.0%*
Financial reasons	*17.1%*	*18.8%*
Facilities close by	*5.7%*	*12.5%*
Working from home	*11.4%*	*18.8%*
More tranquility	*34.3%*	*31.3%*
Nuisance / disturbance / confining	*5.7%*	*18.8%*
Other	*11.4%*	*0.0%*

Table 10.22: Reasons for the change in city size preferences, differentiated on changes *because* of Corona and *since* Corona.

10.3.3 Characteristics of the neighborhood

The characteristics of the neighborhood which are preferred by the respondent group (n=1458) remained for 92.0% (n=1342) the same as they were before the Corona crisis. For 5.1% (n=74), the preferences changed; 2.4% (n=35) state the Corona crisis was the cause for this, and 2.7% (n=39) state it was not. The remaining 2.9% (n=42) of respondents do not know whether their preference concerning the neighborhood characteristics changed since the start of the crisis. The change ratios are shown in image 10.10.

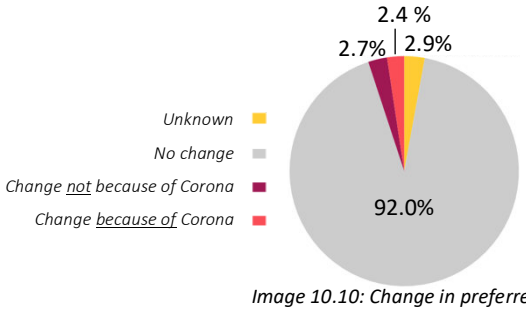


Image 10.10: Change in preferred neighborhood characteristics (n=1458)

As can be seen in table 10.23, of the respondents whose preferences were changed by the Corona crisis (n=35), the majority (57.1%, n=20) considered a dwelling in a vibrant city district before the crisis. Currently, 31.4% (n=11) considers this. The preference for living in the inner city has likewise decreased since the start of the crisis; from 37.1% to 14.3% (respectively n=13 and n=5). The number of respondents who consider living in a quiet residential area has, au contraire, risen from 45.7% (n=16) to 80.0% (n=28). Similarly, the number of respondents considering living in a village-like area has risen from 11.4% to 57.1% (respectively n=4 and n=20). lastly, the number of respondents who consider living rural has risen from 11.4% (n=4) to 34.3% (n=12). A clear trend away from the city towards to more quiet environments is thus observable.

Preferred neighborhood characteristics (Multiple responses possible)	Before		Currently	
Inner city	13	*37.1%*	5	*14.3%*
Vibrant city district	20	*57.1%*	11	*31.4%*
Quiet residential area	16	*45.7%*	28	*80.0%*
Village-like	4	*11.4%*	20	*57.1%*
Rural	4	*11.4%*	12	*34.3%*

Table 10.23: Changes in neighborhood characteristics preferences, caused by the Corona crisis (n=35).

When analyzing the changes in preferences of the respondents whose changes were not caused by Corona, as shown in table 10.24, similar trends are visible albeit less extreme. In this group (n=39), approximately half of the respondents (48.7%, n=19) considered living in a vibrant city district before the start of the crisis, relative to 35.9% (n=14) now. Similarly, the preference for living in the inner city has decreased from 38.5% to 20.5% (respectively n=15 and n=8). And similar to the groups of respondents whose changing preferences were caused by Corona, the preference for living in a quiet residential area increased in this group as well; From 46.2% to 71.8% (n=18 and n=28). Similarly, the number of respondents considering living in a village-like area has risen from 17.9% (n=7) to 33.3% (n=13). Lastly, the number of respondents who consider living rural has also risen; from 15.4% (n=6) to 33.3% (n=13). A clear trend away from the city towards to more quiet environments is thus observable in this groups of respondents as well, albeit less explicit.

Preferred neighborhood characteristics (Multiple responses possible)	Before		Currently	
Inner city	15	*38.5%*	8	*20.5%*
Vibrant city district	19	*48.7%*	14	*35.9%*
Quiet residential area	18	*46.2%*	28	*71.8%*
Village-like	7	*17.9%*	13	*33.3%*
Rural	6	*15.4%*	13	*33.3%*

Table 10.24: Changes in neighborhood characteristics preferences, *not* caused by the Corona crisis (n=39).

Why did the preferred neighborhood characteristic change?

Table 10.25 shows the quantified reasons respondents provided for their changed preferred neighborhood characteristics. As is visible, the respondents whose preferred neighborhood changed due to Corona, and who currently prefer the lesser urban neighborhoods, relatively often mention wanting privacy and tranquility in their reasoning of why. A respondent explained: *"Before corona I wanted to move to the inner city, but now after corona I don't want to live too densely populated anymore"*. Another explained; "*I notice that busyness now stresses me even more than before"*. Respondents whose preferred neighborhood changed due to Corona furthermore often mention wanting space and nature in their explanations. Many perceive these as means to acquire the desired tranquility and privacy, either for enjoyment since Corona changed their perspective, or for feeling safer: "*Living and housing has taken on a different dimension now that rural areas offer a better chance of not becoming infected due to the much less crowded environment.".*

Among the respondents whose preferred neighborhood changed, but *not* due to Corona, the reasons of wanting space and nature were mentioned often in the explanations as well. Additionally, finances were more often mentioned among these respondents. The overall tenor was that due to the high housing prices, respondents feel forced to search in cheaper, more quiet residential areas.

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=18)*	*The preference changed because of the Corona crisis (n=18)*
Personal circumstances	*10;0%*	*0.0%*
Changing household composition	*10.0%*	*0.0%*
Financial reasons	*20.0%*	*4.0%*
Amenities close by	*10.0%*	*8.0%*
Wanting bustle	*5.0%*	*12.0%*
Wanting tranquility / privacy	*10.0%*	*44.0%*
Wanting space / Nature	*25.0%*	*32.0%*
Other	*10.0%*	*0.0%*

Table 10.25: Reasons for the change in neighborhood characteristic preferences, differentiated on changes *because* of Corona and *since* Corona.

10.3.4 Amenities

Which amenities the respondents prefer to have within walking distance stayed the same as before the start of the Corona crisis for 92.5% (n=1348) of the respondents. 4.5% (n=65) indicate that their preferences did change; for 2.3% (n=33) this was a result of the Corona crisis, and for 2.2% (n=32) it was not. The remaining 3.1% (n=45) do not know whether their preferences concerning the amenities close by have changed. The change ratios are shown in image 10.11.

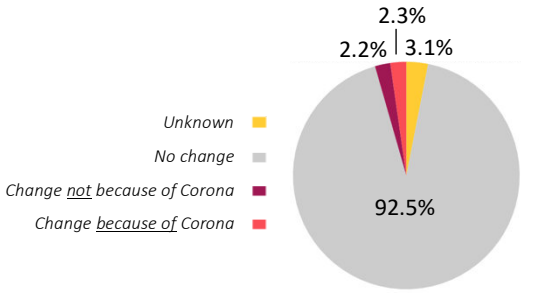


Image 10.11: Change in preferred amenities close by (n=1458)

For measuring what the change in preference for certain amenities encompasses, respondents who indicated that their preference had changed were asked whether having the amenities at a walking distance had gained or decreased in importance. Image 10.12 shows the results. The yellow-grey stripes represent the respondents whose preferences changed because of the Corona crisis; orange represents the respondents whose changing preferences were not the result of the crisis.

Change due to the crisis

Of the respondents for who Corona caused the change in their preferences, 63.6% indicate that having nature at walking distance has become more important since the start of the crisis. Furthermore, 54.5% indicate that having functional greenery such as parks, fields of grass and recreational areas at walking distance has gained in importance. A respondent explains that *"because of being outside more since Corona, you suddenly appreciate the greenery around you. We now feel the need to go outside more often."*. Approximately a fifth (18.2%) state that it has become more important to have shops for daily groceries at walking distance. Contradictory, 12.1% of the respondent's value shops for daily groceries less: *"I'm having the groceries delivered now"*.

Furthermore, amenities which have become less important for the respondents whose changing preferences were the result of the Corona crisis, are shops for fashion and luxury, and hospitality such as cafes restaurants and bars. Both amenities decreased in importance for 36.4% of these respondents. A respondent elucidates: *"In any case, I prefer not to go to the cafe right now, just like visiting busy places."*

Finally, a fifth (21.2%) value cultural facilities such as museums, libraries, the cinema and the theatre less. Likewise, a fifth (21.2%) value having business close by less. For this group, having public transportation at walking distance has also decreased in importance. A respondent who expresses the most common explanation for this elucidates: *"The city was already too busy for us before Corona. Now that it turns out that we don't really miss all those facilities at all, we have started to think differently about living in the city."*

Change since, but not due to the crisis

For the respondents whose preferences changed since the start of the crisis, but for whom Corona was not the cause for this, the amenities which have gained in importance are more widespread. Likewise, for these respondents, the amenity which for most people has become more important is having nature close by (62.5%): *"[...] I have noticed how nice it is that you can take a nice walk, and it would be nice if you didn't have to travel first"*. Additionally, four out of ten of these respondents value having shops for daily groceries at walking distance more (40.6%). One respondent explains that this is *"because I've been walking more, and I now also do small daily groceries on foot"*. Furthermore, having functional greenery at walking distance has gained in importance as well (31.3%). Among this group of respondents, starting a family and receiving children is often mentioned in relation to the wish for greenery. For approximately a fifth of the respondents, public transportation has gained in value (21.9%). Finally, the presence of hospitality such as cafes, restaurants and bars gained in value for (18.8%).

For 43.8% of the respondents whose preferences changed, but not because of the Corona crisis, having shops for fashion and luxury as well as having hospitality at walking distance has become *less* important. For a third of these respondents (31.3%) it also has become less important to have shops for daily groceries nearby as "groceries can be delivered". Likewise, a third (31.3%) value it less to have cultural facilities close by. For a quarter (25.0%) having leisure facilities such as theme parks or the zoo and having business close by has become less important. The mentioned decreased importance of these amenities is explained due to people stating that "*shops have become less relevant*" as anything can be delivered, and because of people minding it less to travel a bit further for amenities, if this means living in a nice, green area with nature close by, and which is affordable.

For 28.1% of the respondents whose preferred amenities nearby changed *not* due to Corona, childcare facilities have decreased in importance. For a fifth (21.9%), play facilities for children decreased in importance. For near to a fifth (18.8%) having educational facilities has decreased in importance. It is hypothesized that this is due to life-course events i.e., the children of these respondents have grown up.

Finally, also a fifth (21.9%) thinks public transportation less important, which is explained as not being necessary anymore due to working from home.

So, why did the preferred amenities change?

Through analyzing the qualitative data in which respondents explained their changed preference for amenities at a walking distance, the general opinion of the respondents has been detected. Respondents of both groups mention often the need for being outside, the need for nature and the need for taking walks. Furthermore, both groups of respondents mention that due to the working from home, division of time is more flexible, and this provides them freedom for other activities, which created *"the need to fill in time more independently, with own activities"*. In line with this, respondents of both groups mention often that physical stores for luxury and fashion have decreased in importance since shopping is available online as well. In general, people from both groups seem to be thinking more consciously about the future since the Corona crisis.

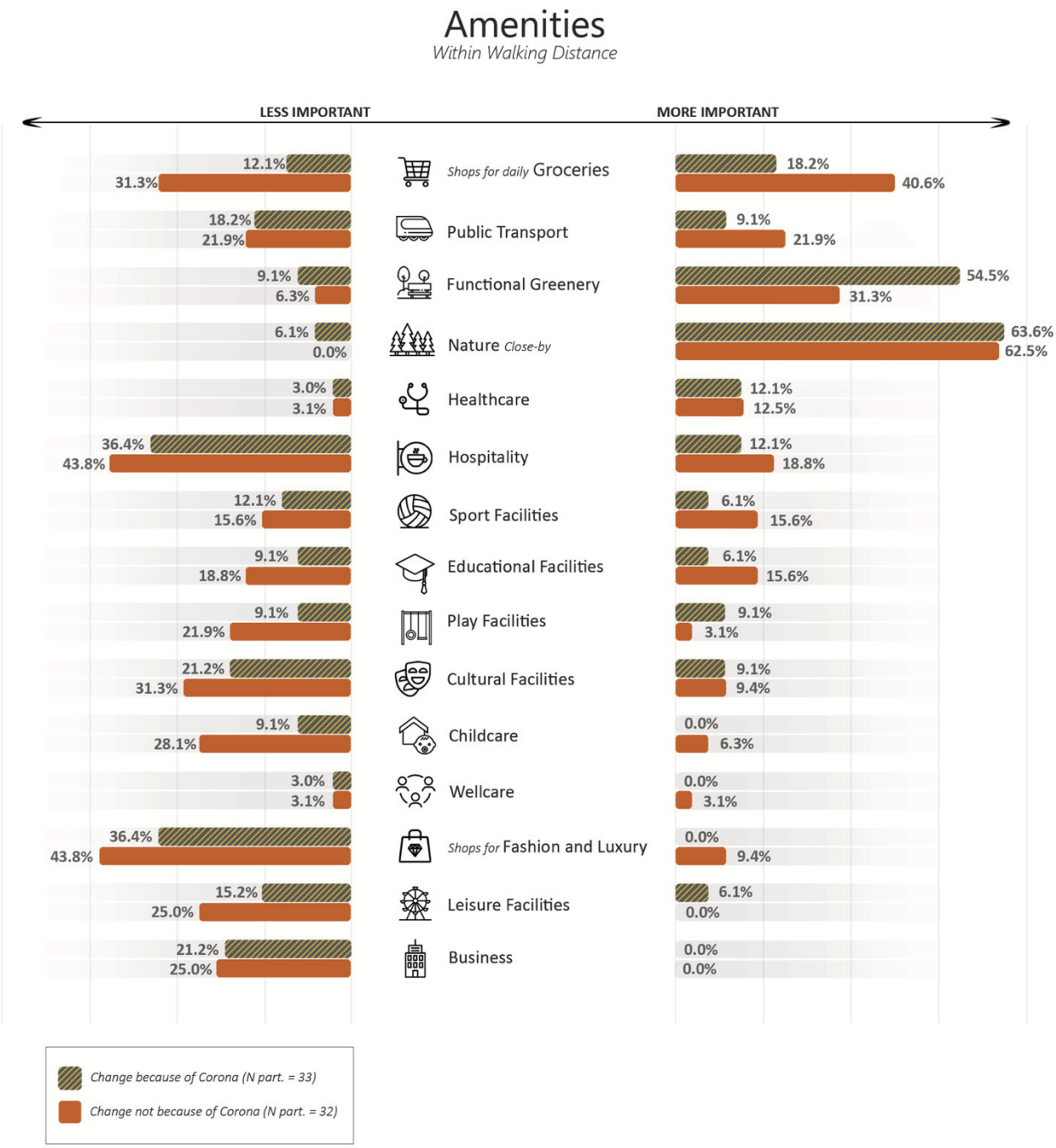


Image 10.12: The increase and decrease in importance of having certain amenities at a walking distance, as experienced by the respondents whose preferences changed.

10.4 Causes for changing preferences – *Moving reasons*

10.4.1 Current reasons for wanting to move

Besides exploring the reasons behind the changes in preferences per attribute, reasons for wanting to move in the first place have been researched as well. Image 10.13 illustrates the various reasons which are currently leading for the respondent group. Respondents were able to select multiple reasons. Nonetheless, half of the respondent group (51.1%, n=745 out of 1457) selected a single reason. A quarter (26.2%, n=380) selected two reasons, and 16.0% (n=233) selected three. The remaining 6.8% of respondents (n=99) selected four or more reasons for moving.

A third of the respondents (34.3%, n=500) state that their current dwelling no longer suffices. In like manner, approximately a third (31.1%, n=453) indicates that a change in their household composition, e.g., a divorce, the birth of a child etc., is a reason for moving. 16.7% (n=243) states that a reason for moving is the wish for living closer to nature, and 15.2% (n=222) of the respondents state that the direct living environment of their current dwelling no longer suffices. A tenth (12.9%, n=188) wants to start living independently. Another tenth (12.3%, n=179) indicated financial reasons are of influence. 10.8% (n=157) disclose that the (direct) neighbors are a reason for wanting to move. Furthermore, 8.2% (n=119) indicate wanting to live closer to family and/or friends. 5.1% (n=74) name work as a reason. Sixty-one people (4.2%) state that their health or the need for (health)care represents a reason for wanting to move. For 2.6% (n=38), the accessibility of their current dwelling in terms of infrastructure or public transportation etc. does not suffice. Besides these reasons, 27.2% (n=397) disclosed 'other reasons' for wanting to move.

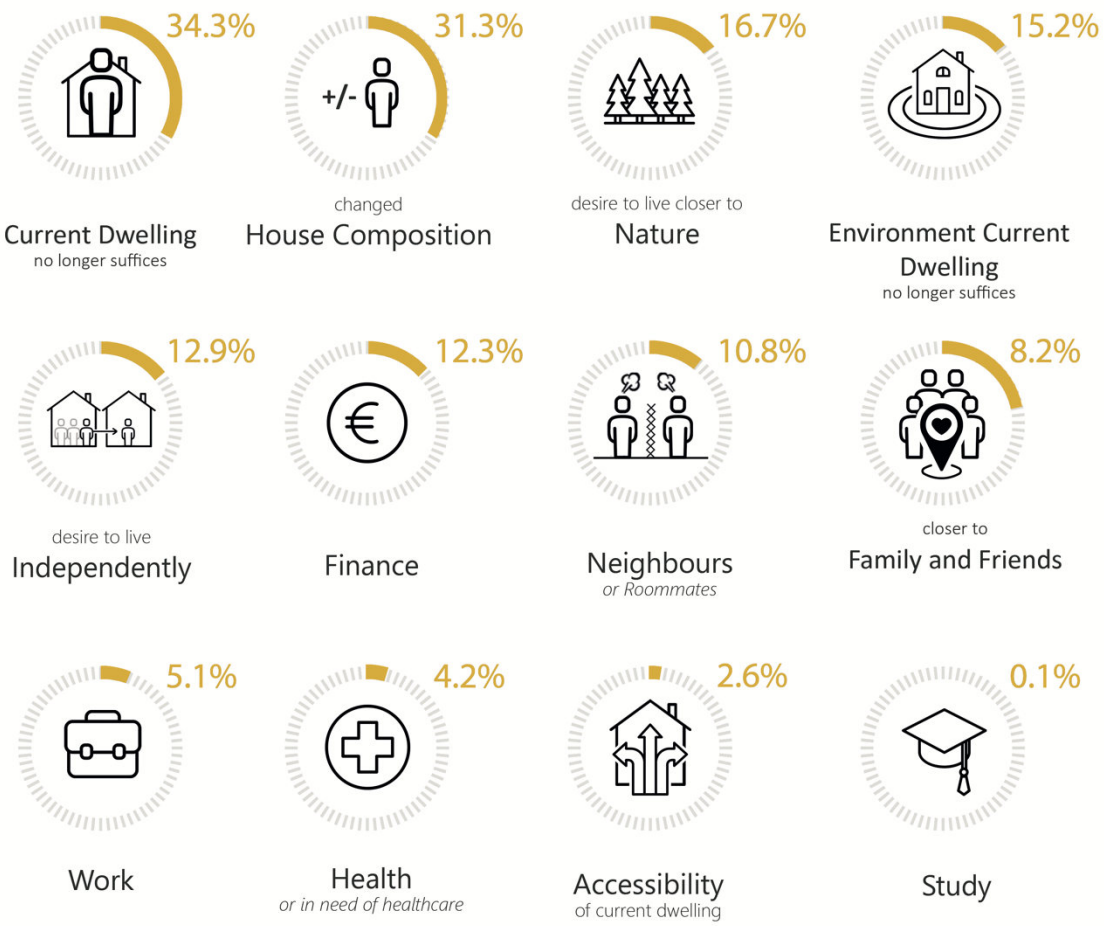


Image 10.13: Current reasons for wanting to move among the respondents (n=1457)

10.4.2 Change in reasons for wanting to move

It is of interest to discern whether people their reasons for wanting to move have changed since the start of the Corona crisis, and if they changed because of it or if the reasons stayed the same. Because if reasons for wanting to move changed, this might explain the changes in dwelling preferences as elucidated in the previous paragraphs.

An analysis of whether moving reasons changed shows that for 13.8% of the respondents (n=186 out of 1344) change transpired. For approximately a quarter of them (3.2%, n=43), Corona was the cause for the changing moving reasons. For the other 10.6% (n=143), the reasons for wanting to move changed since the start of the crisis but were not caused by the crisis. For 85.6% (n=1150) the reasons for wanting to move stayed the same. The change ratios are shown in image 10.14.

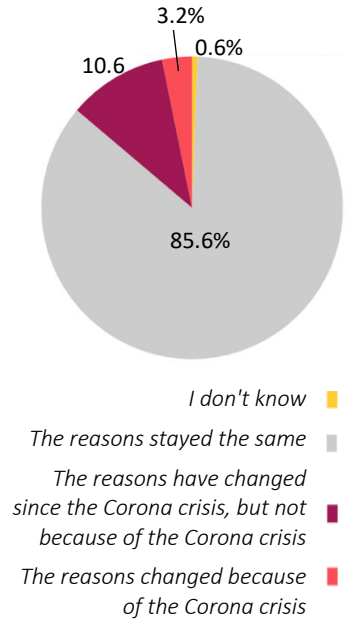


Image 10.14: Change in reasons for wanting to move (n=1344)

10.4.3 The changed reasons for wanting to move

An analysis of the reasons for wanting to move from the respondents whose reasons have changed (n=186), shows what this change encompasses. Table 10.26 presents the reasons from before the Corona crisis started and the current reasons of the respondents who were influenced in this by the Corona crisis, while table 10.27 shows the comparison of reasons of respondents whose were *not* influenced by the Corona crisis. The reasons are presented in percentages of how many respondents selected said reason. The majority of the respondents whose reasons changed (regardless the cause) selected a single reason for wanting to move before the Corona crisis started (56.5%, n=105 out of 186). A quarter, 26.9%, selected two reasons (n=50), and 12.4% selected three (n=23). Comparing this to the number of reasons these respondents currently selected for wanting to move, shows that 32.8% (n=61) selected one reason, 28% (n=52) selected two reasons, 24.7% (n=46) selected three reasons, and 11.8% (n=22) selected four reasons.

Changed reasons because of Corona

As shown in table 10.26, of the forty-three respondents whose reasons changes because of Corona, nineteen (44.2%) state their current dwelling no longer sufficing was the reason for wanting to move pre-crisis, in comparison to 55.8% (n=24) who state this now. A reason which emerged because of the crisis, is the direct living environment of the current dwelling no longer sufficing. Before the crisis, one respondent (2.3%) indicated this was a reason, in comparison to 25.6% (n=11) now. Additionally, the changing household composition become more prominent a reason (before 18.6% to currently 32.6%), likewise as wanting to live closer to nature (before 14.0% to currently 39.5%).

Moving reasons	Before		Currently	
Current dwelling no longer suffices	19	*44.2%*	24	*55.8%*
Current direct living environment no longer suffices	1	*2.3%*	11	*25.6%*
Changing household composition	8	*18.6%*	14	*32.6%*
Pursuing living independently	1	*2.3%*	1	*2.3%*
Living closer to nature	6	*14.0%*	17	*39.5%*
Financial reasons	5	*11.6%*	6	*14.0%*
(Direct) neighbors	5	*11.6%*	7	*16.3%*
Living closer to family and/or friends	2	*4.7%*	1	*2.3%*
Work	4	*9.3%*	3	*7.0%*
Study	0	*0.0%*	0	*0.0%*
Health or the need for (health) care	2	*4.7%*	3	*7.0%*
Insufficient accessibility of the current dwelling	0	*0.0%*	1	*2.3%*
Other	7	*16.3%*	10	*23.3%*

Table 10.26: Changes in moving reasons, caused by the Corona crisis (n=43).

A third of the respondents whose reasons for moving changed due to the Corona crisis elaborates that the dwelling no longer suffices because of needing an extra room for working. Additionally, this group of respondents significantly more often mention the need for a workplace, the need for more space in the dwelling, or the wish for a garden as reasons for their changed moving reasons. The general opinion here is that *"working from home requires space in the house and the opportunity to relax outside (garden)."*

Furthermore, the direct living environment no longer being adequate is, as mentioned, a reason for moving which emerged due to the Corona crisis. Respondents who indicated this elaborate that people being home more, and the consequential bustle are reason for this: *"There are now more people at home during the day, or they work from home. Children are on the street a lot. As a consequence, we live more and more in a bunch. We now have an even greater need to have space around the house [...]"*. Another explanation which is often mentioned, and which is related to the desire to live closer to nature, is that due to Corona *"the awareness of space and nature has grown compared to the desire to live in the city"*.

Finally, one in three respondents whose reasons for moving changed due to Corona stated that their household composition changed because of the crisis. Respondents mentioned among other break-ups and divorces due to having lived too much in each other's pockets. Another explained: *"Because of corona, my daughter went to live with her father. This in connection with home study; there is no privacy at my home"*. In like manner, another respondent, who lives with his parents, explained that *"since the Corona crisis, everyone has been home a lot. As a result, the desire to live independently has increased enormously."*

Changed reasons since Corona

Of the respondents whose reasons changed since the start of the crisis, but for whom Corona was not the cause of this, three reasons are most prominent both currently and pre-crisis. However, the reasons have become pivotal for more people since the crisis started. As shown in table 10.27, the current dwelling no longer sufficing was reason for 35.7% (n=51) of the respondents before the crisis, in comparison to 43.4% (n=62) now. Moreover, the direct living environment of this current dwelling no longer sufficing was reason for 17.5% (n=25) of the respondents before the crisis, in comparison to 25.2% (n=36) currently. Lastly, for 32.2% (n=46) of the respondents, the household composition changing was a reason for moving before the crisis started, in comparison to 49.0% (n=70) now. Additionally, reasons mentioned more often due to Corona are living closer to nature and financial reasons. Among the respondents whose reasons for moving changed due to Corona, living closer to nature became important for 22.4% (n=32), and financial reasons were indicated as important by 19.6% (n=28).

Moving reasons	Before		Currently	
Current dwelling no longer suffices	51	*35.7%*	62	*43.4%*
Current direct living environment no longer suffices	25	*17.5%*	36	*25.2%*
Changing household composition	46	*32.2%*	70	*49.0%*
Pursuing living independently	17	*11.9%*	19	*13.3%*
Living closer to nature	26	*18.2%*	32	*22.4%*
Financial reasons	17	*11.9%*	28	*19.6%*
(Direct) neighbors	14	*9.8%*	18	*12.6%*
Living closer to family and/or friends	12	*8.4%*	11	*7.7%*
Work	14	*9.8%*	13	*9.1%*
Study	1	*0.7%*	1	*0.7%*
Health or the need for (health) care	4	*2.8%*	3	*2.1%*
Insufficient accessibility of the current dwelling	2	*1.4%*	2	*1.4%*
Other	19	*13.3%*	24	*16.8%*

Table 10.27: Changes in moving reasons, not caused by the Corona crisis (n=143).

Explanations provided for the changing household composition are among others expecting a baby, plans to marry or start living together, or that the children moved out of the house, respondents divorced, or that a family member passed away. Respondents furthermore mention their age being a

factor, steering them towards more life-course proof dwelling types. These reasons mostly reflect life-course events, which is in line with the literature as described in chapter four. Respondents furthermore elaborate having either more or less financial possibilities. Lastly, often mentioned is the increased awareness of life and of housing as people have had "*more time to think since social life is all slower*".

10.5 Causes for changing preferences – *Motivation factors*

As explained in chapter three, the motivation factors are what make it possible for people to prefer one thing over another. They are the foundation for a housing preference. Moreover, as explained in chapter four, the Corona crisis, and the changing socioeconomic circumstances, has had its effect on these motivation factors. In order to research the effect the Corona crisis had, respondents were asked to rate certain statements. These statements embody results from changing motivation factors and influence a person's lifestyle, and they therefore have an (indirect) impact on the attributes.

Table 10.28 shows the rates of respondents concerning the statements, ranging from 'completely disagree' to 'completely agree'. Analysis showed that 28.2% of the respondents have become lonelier due to Corona. 14.2% state Corona made them want to live closer to family and/or friends. Due to Corona, half of the respondents (50.8%) want to *visit* nature more often, and a third (30,9%) wants to *live* in an environment with more greenery. 41.9% want to work from home more often, and a quarter (25.1%) finds it less of a problem to live further away from the workplace. 23% want to be less dependent on public transportation. 18.4% wants to live *closer* to amenities.

Due to the Corona crisis ...		Completely disagree	Disagree	Neutral	Agree	Completely agree
... I have become lonelier	Count	339	390	318	332	79
	%	*23,3%*	*26,7%*	*21,8%*	*22,8%*	*5,4%*
... I want to live closer to family and/or friends	Count	288	489	475	170	36
	%	*19,8%*	*33,5%*	*32,6%*	*11,7%*	*2,5%*
... I want to visit nature more often	Count	138	209	370	545	196
	%	*9,5%*	*14,3%*	*25,4%*	*37,4%*	*13,4%*
... I want to live in an environment with more greenery	Count	177	312	518	328	123
	%	*12,1%*	*21,4%*	*35,5%*	*22,5%*	*8,4%*
... I want to live closer to amenities	Count	218	405	566	222	47
	%	*15,0%*	*27,8%*	*38,8%*	*15,2%*	*3,2%*
... I want to work from home more often	Count	287	240	320	384	227
	%	*19,7%*	*16,5%*	*21,9%*	*26,3%*	*15,6%*
... I want to be less dependent of public transportation	Count	299	344	480	210	125
	%	*20,5%*	*23,6%*	*32,9%*	*14,4%*	*8,6%*
... I find it less of a problem to live further away from my workplace	Count	300	332	460	273	93
	%	*20,6%*	*22,8%*	*31,6%*	*18,7%*	*6,4%*

Table 10.28: The effect of the Corona crisis resulting from changing motivation factors of the respondent group (n=1458).

10.6 Chapter closing

The previous paragraphs elucidated whether and how much housing preferences of the respondent group changed since the start of the crisis or as a result of Corona, and if so, what the change encompassed. Furthermore, why this change was as such was elucidated. With this, research question three, '*In which way have (stated) housing preferences of (aspiring) owner occupiers in the Dutch housing market changed due to the Corona crisis, and why?',* has been answered.

Most importantly, the ratio of respondents whose preferences changed due to corona for a certain housing attribute ranges from 1.7% to 6.2% of the respondent group and is on average 3.4%. Per attribute, preferences changed because of Corona for a small part of the respondent group. This is an interesting finding seeing as the image of changes in housing preferences due to Corona, as constructed by the media, suggests much change has taken place and for many people.

However, of importance is that of the respondent group, 17.8% indicated that their preference for at least one housing attribute has changed because of the Corona crisis. This means that for a notable part of the respondent group their preferences have changed at least in part due to Corona. These respondents are currently in search of a different dwelling than before the crisis started because of Corona. Nonetheless, seeing as nine attributes were researched, the bigger part of their preference remains unaffected by the crisis. Furthermore, for the majority of the respondent group (82.2%), their housing preferences were not changed by the Corona crisis.

The attributes for which the respondents' preferences were most affected by the Corona crisis is the preferred number of rooms. It stands out that the number of respondents for whom the preferred dwelling size (in m^2) changed because of Corona is almost half as much as the number of respondents whose preferred number of rooms changed (respectively 3.6% and 6.2%). It can thus be deduced that Corona has had more impact on the preferred number of rooms than on the preferred dwelling size.

Reasons for the preferences changed due to the Corona crisis were most often related to working from home, the newfound appreciation for nature and for being outside, and the wish for tranquility.

The findings of this chapter are recapitulated in chapter thirteen, paragraph 13.4.

11. The variance of change

This chapter provides the answer to sub-question four; ***"In which way does identified change in preferences differ between various groups of owner-occupiers?".*** *The chapter highlights which subgroups have experienced change in certain housing preferences. In other words, where has change transpired?*

11.1 The subgroups of the sample

As has been explained, the expectation was that the level of urbanity of the current place of residence and the household composition are both influential in whether housing preferences changed since the start of- or because of the Corona crisis. When categorizing the respondents in one of the twelve categories (one of the three household types, each living in one of the four levels of urbanity) this resulted in too little respondents per subgroup. The result was that for both the Fischer exact test as the Chi2 analysis, conditions were not met. As such, a separate analysis of the relationship between the household type and changing housing preferences, and of the relationship between the urbanity codes and changing housing preferences has been executed. In both cases, the relation between the subgroup characteristic and whether housing preferences changed was researched through the housing attributes. As such, both subgroup characteristics were (separately) tested for a significant relationship with changing preferences for each of the researched housing attributes, which are the preferred dwelling type, dwelling surface (m^2), the number of extra rooms in a dwelling for e.g., sleeping or working, the outdoor space, the price, the location i.e., moving distance from the current place of residence, the city size, the neighborhood characteristics and the preferred amenities close by. Additionally, the relationship between both subgroup characteristics and whether reasons for wanting to move changed has been researched.

The analysis disclosed that there are indeed statistically significant relations; The household type is significant for whether change transpired in the reasons for moving, the preferred dwelling type, the preferred price range the preferred moving distance from the current place of residence, and the preferred neighborhood characteristics. The urbanity of the current place of residence is related to whether change transpired in the preferred number of extra rooms (i.e., for sleeping or working), the preferred price range or the preferred moving distance from the current place of residence. These relations are elucidated in the next paragraphs. The full analysis including the non-significant relations can be found in the Tabulation Publication supplement to this thesis report.

11.1.1 Household type and reasons for moving

Firstly, there is relation between the household type and whether reasons for wanting to move changed. As can be seen in table 11.1, within the respondent group (n=1336) reasons for wanting to move more often stayed the same for the multi-person households without children (89.2% out of n=739), then for the multi-person household with children and the single-person households (respectively 82.0% out of 355, and 82.6% out of 242). For the multi-person households with children, Corona was more often the cause for the change (5.1%, n=18) than for the multi-person households without children (2.7%, n=20) or for the single-person households (2.1%, n=5). The households whose preferences changed since the crisis but for whom Corona was not the cause are more often multi-person households with children (13.0%, n=143) or single-person households (15.2%, n=37) than multi-person households without children (8.10%, n=60).

Household type		Moving reasons: *The reason stayed the same*	*The reason has changed since the Corona crisis, but not because of the Corona crisis*	*The reason changed because of the Corona crisis*	***Total***
Single-person household	Count	200	37	5	242
	%	82,6%	15,30%	2,10%	100%
Multi-person household without children	Count	659	60	20	739
	%	89,2%	8,10%	2,70%	100,0%
Multi-person household with children	Count	291	46	18	355
	%	82,0%	13,0%	5,10%	100,0%
Total	Count	1150	143	43	1336
	%	86,1%	10,7%	3,2%	100,0%

Table 11.1: The relationship between household type and whether reasons for moving changed. (n=1336, Asymptotic significance (2-sided) =0.001. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.79).

11.1.2 Household type and the preferred dwelling type

There is a significant relation between the household type and whether the preferred dwelling type has changed, as is visible in table 11.2. It appears that the preference stayed the same more often for the multi-person households without children (94.0% out of n=777), then for the multi-person households with children (89.1% out of n=385) or the single-person households (91.2% out of n=262). These latter household types, on the other hand, more often prefer a different dwelling type than before the Corona crisis, even though Corona was not the cause for this change in preference. The dwelling-type preference changed for 7.6% (n=20) of the single person households, and for 6.8% (n=26) of the multi-person households with children since the crisis, in comparison to 4.4% (n=34) of the multi-person households without children. Lastly, the preferred dwelling type was changed because of Corona most often for the multi-person households with children (4.2%, n=16). In comparison, Corona caused a change in preference for 1.7% (n=16) of the multi-person households without children, and for 1.1% (n=3) of the single-person households.

Household type		Preferred dwelling Type: *The preference stayed the same*	*The preference has changed since the Corona crisis, but not because of the Corona crisis*	*The preference changed because of the Corona crisis*	***Total***
Single-person household	Count	239	20	3	262
	%	91,2%	7,6%	1,1%	100,0%
Multi-person household without children	Count	730	34	13	777
	%	94,0%	4,4%	1,7%	100,0%
Multi-person household with children	Count	343	26	16	385
	%	89,1%	6,8%	4,2%	100,0%
Total	Count	1312	80	32	1424
	%	92,1%	5,6%	2,2%	100,0%

Table 11.2: The relationship between household type and whether the preferred dwelling type changed. (n=1424, Asymptotic significance (2-sided) =0.006. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.89).

11.1.3 Household type and the preferred price range

There is a relation between the household type and whether the preferred price range has changed. As table 11.3 shows, the multi-person households with children changed their preference concerning the price range most often; 31.7% (n=119 out of 375) of these households now prefer a different price range then before the corona crisis started. This is more than the number of multi-person households without children who changed their preference (24.5%, n=182 out of 742), or the single person households who changed their preference (23.1%, n=190 out of 247). Another difference which stands out is that 8.0% (n=30) of the multi-person households with children indicate that Corona caused their change in preference, in comparison to the 4.3% (n=32) of multi-person households without children or the 5.7% (n=14) of the single-person households.

Household type		Preferred price range			
		The preference stayed the same	*The preference has changed since the Corona crisis, but not because of the Corona crisis*	*The preference changed because of the Corona crisis*	***Total***
Single-person household	Count	190	43	14	247
	%	76,9%	17,4%	5,7%	100,0%
Multi-person household without children	Count	560	150	32	742
	%	75,5%	20,2%	4,3%	100,0%
Multi-person household with children	Count	256	89	30	375
	%	68,3%	23,7%	8,0%	100,0%
Total	Count	1006	282	76	1364
	%	73,8%	20,7%	5,6%	100,0%

Table 11.3: The relationship between household type and whether the preferred price range changed. (n=1364, Asymptotic significance (2-sided) =0.023. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.76).

11.1.4 Household type and the preferred moving distance

There is a relation between the household type and whether the distance from the current place of residence where people prefer to move to has changed. As visible in table 11.4, the preferred moving distance changed more often for the single-person households (17.2%, n=45 out of 261) then for multi-person households without children (9.7%, n=75 out of 773) or for multi-person households with children (13.9%, n=53 out of 381). An analysis of whether Corona was the cause for this change shows that this was more often the cause for single-person households (5.7%, n=15) then for multi-person households with children (3.9%, n=15) or without children (3.4%, n=26). For 11.5% (n=30) of the single-person households and for 10.0% (n=38) of the multi-person households with children, Corona was not the cause for their changing preferences. Likewise, for 6.3% (n=49) of the multi-person households without children, Corona did not cause the change in the preferred moving distance.

Household type		Preferred moving distance from the current place of residence			
		The preference stayed the same	*The preference has changed since the Corona crisis, but not because of the Corona crisis*	*The preference changed because of the Corona crisis*	***Total***
Single-person household	Count	216	30	15	261
	%	82,8%	11,5%	5,7%	100,0%
Multi-person household without children	Count	698	49	26	773
	%	90,3%	6,3%	3,4%	100,0%
Multi-person household with children	Count	328	38	15	381
	%	86,1%	10,0	3,9%	100,0%
Total	Count	1242	117	56	1415
	%	87,8%	8,3	4,0%	100,0%

Table 11.4: The relationship between household type and whether the preferred moving distance from the current place of residence changed. (n=1415, Asymptotic significance (2-sided) =0.015. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.33).

11.1.5 Household type and the preferred neighborhood characteristics

As is shown in table 11.5, there is a relation between the household type and whether the preferred neighborhood characteristics have changed. The most important findings are that the preference more often changed because of Corona for single-person households (4.2%, n=11 out of 265) then for multi-person households with children (2.9%, n=11 out of 383) or multi-person households without children (1.7%, n=13 out of 768). Furthermore, 3.8% (n=10) of the single-person households and 3.7% (n=14) of the multi-person households with children experienced changing preference but not because of Corona, in comparison to 2.0% (n=15) of the multi-person household without children. All in all, single-person households and multi-person households with children more often changed their preferences since the crisis started (respectively 7.9%, n=21 and 6.5% n=25) then multi-person households without children (3.7%, n=28).

Household type		Preferred neighbourhood characteristics: *The preference stayed the same*	*The preference has changed since the Corona crisis, but not because of the Corona crisis*	*The preference changed because of the Corona crisis*	***Total***
Single-person household	Count	244	10	11	265
	%	92,1%	3,8%	4,2%	100%
Multi-person household without children	Count	740	15	13	768
	%	96,4%	2,0%	1,7%	100,0%
Multi-person household with children	Count	358	14	11	383
	%	93,5%	3,7%	2,9%	100,0%
Total	Count	1342	39	35	1416
	%	94,8%	2,8%	2,5%	100,0%

Table 11.5: The relationship between household type and whether the preferred neighborhood characteristics changed. (n=1416, Asymptotic significance (2-sided) =0.049. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.55).

11.1.6 Current urbanity level and the preferred dwelling surface (n rooms)

As mentioned, the urbanity of the current place of residence is statistically significant coherent with whether change transpired in the preferred number of extra rooms (i.e., for sleeping or working), the preferred price range or the preferred moving distance from the current place of residence. The address densities corresponding to the urbanity levels have been explained in paragraph 6.1.2.

Table 11.6 shows the relation between the current level of urbanity and the changed preferences for the number of extra rooms in a dwelling. The most important findings are that the preference more often changed because of Corona for residences in urbanity level one, which is very highly urban (10.4%, n=52 out of 499), then for households in urbanity level two, which is highly urban (4.2%, n=18 out of 424), urbanity levels three, which is moderately urban (4.7%, n=12 out of 256), or four, which is hardly to not urban (3.9%, n=9 out of 232).

Furthermore, 5.2% (n=26) of urbanity level one residences and 5.2% (n=22) of the urbanity level two residences experienced change in their preferences but not because of Corona, relative to respectively 2.7% (n=7) and 2.6% (n=6) of the level three and four urbanity residences. All in all, residences in very highly urban areas (level one) experienced most change in their preferences for extra rooms since the crisis started (15.6%, n=76), and residences in the hardly or not urban areas experienced least (6.5%, n=15).

It can be noted that even though changes in the preferred number of rooms are related to the current urbanity level, there is no significant relation between the urbanity level and changes in the preferred amount of m^2 dwelling surface. Not the size of the dwelling, but the functionality it thus paramount for people living in (very) highly urban areas.

Urbanity level [code]		Preferred dwelling surface (*n* extra rooms): *The preference stayed the same*	*The preference has changed since the Corona crisis, but not because of the Corona crisis*	*The preference changed because of the Corona crisis*	***Total***
1. very highly urban	Count	421	26	52	499
	%	84,4%	5,2%	10,4%	100,0%
2. Highly urban	Count	384	22	18	424
	%	90,6%	5,2%	4,2%	100,0%
3. Moderately urban	Count	237	7	12	256
	%	92,6%	2,7%	4,7%	100,0%
4. Hardly to not urban	Count	217	6	9	232
	%	93,5%	2,6%	3,9%	100,0%
Total	Count	1259	61	91	1411
	%	89,2%	4,3%	6,4%	100,0%

Table 11.6: The relationship between the urbanity of the current place of residence and whether the preferred number of extra rooms (i.e., for sleeping, working) changed. (n=1411, Asymptotic significance (2-sided) =0.000. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.03).

11.1.7 Current urbanity level and the preferred price range

As is shown in table 11.7, there is a relation between the current level of urbanity and the changed preferences for the preferred price range of a dwelling. **The most important findings are that the preference most often changed because of Corona for residences in urbanity level one, very highly urban (7.1%, n=34 out of 479), and that the number of households whose preferences changed because of Corona decreases the less urban people live**. Namely, the preferred price range changed because of Corona for 6.5% (n=25 out of 409) of residences in urbanity level two (highly urban), for 4.4% (n=11 out of 249) of residences in urbanity level three (moderately urban), and for 2.6% (n=6 out of 227) of residence in urbanity level four (hardly to not urban).

Additionally, households whose preferred price range changed since the start of the crisis, but for whom Corona was not the cause likewise most often currently live in very highly urban areas (24.8%, n=119). However, as can be seen in table 11.7, the difference in ratios between the various urbanity levels of how many households experienced changing preference which were not because of Corona, is not as big here, as it is for the changes which were indeed caused by Corona. Nevertheless, the total number of households whose preferred price range changed is highest in the very highly urban level and decreases towards to lower urbanity levels.

		Preferred price range			
Urbanity level [code]		*The preference stayed the same*	*The preference has changed since the Corona crisis, but not because of the Corona crisis*	*The preference changed because of the Corona crisis*	***Total***
1. very highly urban	Count	326	119	34	479
	%	68,1%	24,8%	7,1%	100,0%
2. Highly urban	Count	314	70	25	409
	%	76,8%	17,1%	6,1%	100,0%
3. Moderately urban	Count	190	48	11	249
	%	76,3%	19,3%	4,4%	100,0%
4. Hardly to not urban	Count	176	45	6	227
	%	77,5%	19,8%	2,6%	100,0%
Total	Count	1006	282	76	1364
	%	73,8%	20,7%	5,6%	100,0%

Table 11.7: The relationship between the urbanity of the current place of residence and whether the preferred price range changed. (n=1364, Asymptotic significance (2-sided) =0.012. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.65).

11.1.8 Current urbanity level and the preferred moving distance

As visible in table 11.8, the ratio of people whose preferred moving distance from the current place of residence changed is highest in urbanity level one (17.1%, n=85 out of 498), and roughly decreases the lower the urbanity level is. As such in urbanity two, 10.1% (n=43 out of 427) of the respondents changed their preference, in urbanity level three 10.9% (n=28 out of 256) changed their preference, and in urbanity level four 7.3% (n=17 out of 234) changed their preference. This decreasing relation between the urbanity levels and changing preferences is intensified within the group of respondents whose preferences changed since the start of Corona, but not because of Corona. Within this group, 12.2% (n=61) of the respondents currently living in very highly urban areas changed their preference, in contrast to 4.7% (n=11) of the respondents living in hardly to not urban areas. The preferences changed most often because of Corona for people currently living in urbanity level three (5.5%, n=14) and one (4.8%, n=24).

Urbanity level [code]		Preferred moving distance from the current place of residence			
		The preference stayed the same	*The preference has changed since the Corona crisis, but not because of the Corona crisis*	*The preference changed because of the Corona crisis*	***Total***
1. very highly urban	Count	413	61	24	498
	%	82,9%	12,2%	4,8%	100,0%
2. Highly urban	Count	384	31	12	427
	%	89,9%	7,3%	2,8%	100,0%
3. Moderately urban	Count	228	14	14	256
	%	89,1%	5,5%	5,5%	100,0%
4. Hardly to not urban	Count	217	11	6	234
	%	92,7%	4,7%	2,6%	100,0%
Total	Count	1242	117	56	1415
	%	87,8%	8,3%	4,0%	100,0%

Table 11.8: The relationship between the urbanity of the current place of residence and whether the preferred moving distance from the current place of residence changed. (n=1415, Asymptotic significance (2-sided) =0.001. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.26).

11.2 Chapter closing

The previous paragraphs elucidated how the changes in preferences differ among the various groups of (aspiring) owner occupiers. With this, research question three, '*In which way does identified change in preferences differ between various groups of (aspiring) owner-occupiers?*', has been answered.

The findings of this chapter are recapitulated in chapter thirteen, paragraph 13.5. In short, the Corona crisis affected the preferences of multi person households with children, and the preferences of single person households more than those of the multi person households without children. Additionally, preferences of households in highly urban areas are more often affected by the Corona crisis than households in hardly to not urban areas.

12. The permanence of change

This chapter provides the answer to sub-question five; ***"What are the possible long-term consequences of the Corona crisis on housing preferences of (aspiring) owner occupiers?".*** *The chapter explores whether the identified changes in housing preferences caused by the Corona crisis are temporary or structural. This is done by analyzing the survey questions in which people expressed their thoughts on this. With these findings it is important to bear in mind that these are uncertainties. The results described present the expectations of the respondents concerning future wants and needs, in a future environment and market.*

12.1 Temporary or structural

Through the survey, it has been inquired whether the respondents expect their identified changed preferences to be structural or temporary. Table 12.1 on the next page presents the results of this. The attributes for which the preference change proved statistically significant in relation to the subgroups, as explicated in chapter eleven, have been highlighted. Table 12.2 shows the averages of how permanent respondents expect their preference-changes to be. It can be concluded that respondents whose preferences changed since the crisis, but *not* because of the crisis are on average more certain about their new preferences than the respondents whose preference-changes were caused by Corona. Of these first respondents, on average more than half (53.6%, n=44 out of 87) indicate that even after the Corona crisis is over, they expect to fully stay with their new preferences. Of the respondents whose preference-changes were caused by Corona, on average 45.9% (n=24 out of 50) states this. However, the number of respondents who expect to stay 'mostly' with their new preferences, is on average higher amongst the respondents whose changes were caused by Corona (34.7%, n=16) than amongst the respondents whose changes were *not* caused by Corona (29.5%, n=25). Therefore, it can be concluded that for both groups approximately four out of five respondents expect to (mostly) stay with their new preference, even after the crisis is over.

Of the respondents whose preferences were *not* changed by Corona, on average 7.5% (n=8) state they expect to go mostly or fully back to their previous preferences after the crisis is over. Of the respondents whose preferences were changed because of Corona, on average 13.8% (n=7) expect to go mostly or fully back to their previous preferences. This is thus nearly twice as high.

		"After the Corona crisis is over, do you expect your current preferences to stay decisive, or do you think your former preferences will gain in relevance again?"					
		Don't know	I will go fully back to my previous preferences	I will go mostly back to my previous preferences	I will mostly stay with my new preferences	I will fully stay with my new preferences	Total
Average expectancy concerning the preference-changes because of Corona	*n*	3	3	4	16	24	50
	%	5,6%	6,0%	7,8%	34,7%	45,9%	100%
Average expectancy concerning the changed preference-changes since, but not because of Corona	*n*	10	3	5	25	44	87
	%	9,3%	3,0%	4,5%	29,5%	53,6%	100%

Table 12.1: The average expected permanency of the changed preferences. Numbers are rounded.

			"After the Corona crisis is over, do you expect your current reasons to stay decisive, or do you think your former reasons will gain in relevance again?"					
			Don't know	I will go fully back to my previous reasons	I will go mostly back to my previous reasons	I will mostly stay with my new reasons	I will fully stay with my new reasons	*Total*
Moving Reasons	My reasons changed because of the Corona crisis	*n*	0	1	1	14	27	43
		%	0,0%	2,3%	2,3%	32,6%	62,8%	100%
	My reasons changed since the Corona crisis, but not because of it	*n*	36	6	4	40	57	143
		%	25,2%	4,2%	2,8%	28,0%	39,9%	100%

			"After the Corona crisis is over, do you expect your current preferences to stay decisive, or do you think your former preferences will gain in relevance again?"					
			Don't know	I will go fully back to my previous preferences	I will go mostly back to my previous preferences	I will mostly stay with my new preferences	I will fully stay with my new preferences	*Total*
Dwelling type	My preference changed because of the Corona crisis	*n*	3	1	0	12	16	32
		%	9,4%	3,1%	0,0%	37,5%	50,0%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	3	3	3	27	44	80
		%	3,8%	3,8%	3,8%	33,8%	55,0%	100%
Dwelling surface (m2)	My preference changed because of the Corona crisis	*n*	3	3	3	13	30	52
		%	5,8%	5,8%	5,8%	25,0%	57,7%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	4	0	5	16	38	63
		%	6,3%	0,0%	7,9%	25,4%	60,3%	100%
Dwelling surface (*n* rooms)	My preference changed because of the Corona crisis	*n*	4	1	8	24	54	91
		%	4,4%	1,1%	8,8%	26,4%	59,3%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	5	2	1	18	35	61
		%	8,2%	3,3%	1,6%	29,5%	57,4%	100%
Outdoor space	My preference changed because of the Corona crisis	*n*	2	2	0	13	33	50
		%	4,0%	4,0%	0,0%	26,0%	66,0%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	5	1	1	15	36	58
		%	8,6%	1,7%	1,7%	25,9%	62,1%	100%
Price range	My preference changed because of the Corona crisis	*n*	8	15	13	19	21	76
		%	10,5%	19,7%	17,1%	25,0%	27,6%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	46	15	24	76	121	282
		%	16,3%	5,3%	8,5%	27,0%	42,9%	100%
Location; moving distance	My preference changed because of the Corona crisis	*n*	2	2	5	23	24	56
		%	3,6%	3,6%	8,9%	41,1%	42,9%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	16	4	2	36	59	117
		%	13,7%	3,4%	1,7%	30,8%	50,4%	100%
Location; city size	My preference changed because of the Corona crisis	*n*	1	2	3	13	6	25
		%	4,0%	8,0%	12,0%	52,0%	24,0%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	2	2	2	16	25	47
		%	4,3%	4,3%	4,3%	34,0%	53,2%	100%
Neighbourhood characteristics	My preference changed because of the Corona crisis	*n*	1	2	3	15	14	35
		%	2,9%	5,7%	8,6%	42,9%	40,0%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	4	1	2	11	21	39
		%	10,3%	2,6%	5,1%	28,2%	53,8%	100%
Amenities walking distance	My preference changed because of the Corona crisis	*n*	2	1	3	12	15	33
		%	6,1%	3,0%	9,1%	36,4%	45,5%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	4	1	2	10	15	32
		%	12,5%	3,1%	6,3%	31,3%	46,9%	100%

Table 12.2: The expected permanency of the changed preferences. The attributes for which the preference change proved statistically significant in relation to the subgroups, as explicated in chapter 11, have been highlighted.

It is striking that while the respondents whose preferences were changed because of Corona are on average *less* inclined (than respondents for who Corona was *not* the cause) to fully stay with their new preference after the crisis is over (45.9%), this same group of respondents is surer that they will fully stay with their new reasons, even after the crisis is over (62.8%, see table 12.2 on the previous page). Au contraire, of the respondents whose preference-changes were *not* caused by Corona, 53.6% expects to fully stay with their new preferences, while only 39.9% expects to fully stay with their new reasons.

12.1.1 Expected permanence of the changed preferences per attribute

An analysis of the expectancy concerning the permanence of preference-changes per housing attribute, shows that **respondents are relatively sure about their new preference for the number of extra rooms being permanent**. Research question three stated that nine out of ten people whose preference changed currently want one more room than before the crisis. Of these respondents, 59.3% indicate expecting to stay fully with their new preferred number of rooms even after the crisis is over, and 26.4% indicate expecting to stay mostly with their changed preference. However, 9.9% indicate they expect to go mostly or fully back to the preferred number of rooms from before the crisis started.

Research question three discovered that Corona has had more impact on the preferred number of rooms than on the size of the dwelling in m^2. As mentioned, **of the respondents who prefer a different size,** two thirds currently prefer one size-range bigger than before. The analysis in table 12.2 shows that of these respondents **57.7% expect to fully stay with their new preferred dwelling size, and 25.0% expect to mostly stay with it**. Yet 11.6% indicated expecting to go mostly or fully back to their previously preferred dwelling size. Respondents are thus nearly as sure of staying with their newly preferred dwelling size as they are sure about the number of rooms.

Research question three furthermore determined 57.9% of the respondents whose preferred price range changed because of Corona currently want one price range higher than before. Table 12.2 shows that **of all the housing attributes, the permanence of the preferred price range evokes the most uncertainty**; 10.5% indicate not knowing whether their current preference will stay like this after the crisis is over. Furthermore, solely 27.6% of the respondents expect to stay fully with their new preferred price range, and 25.0% expect to stay mostly with it. Nevertheless, 17.1% expect to return mostly to their previous preferred price range, and 19.7% expect to go back fully. **This is much higher than the for the other attributes.**

Among the respondents whose preferred dwelling type changed because of Corona, the apartment became less preferred in favor of a terraced dwelling, in-between dwelling, corner house or quadrant house, as has been elucidated in research question three. **The dwelling type, like the price range, evokes uncertainty among the respondents**; 9.4% state not knowing whether their current preference will stay like this after the crisis is over. However, unlike the expectancy for the permanency of the preferred price range, **50.0% of the respondents indicate expecting to fully with their newly preferred dwelling type, and 37.5% indicate expecting to stay mostly with it.** Solely 3.1% expect to go back to their previous preference.

Unlike with the previous attributes, **most respondents expect to stay with their changed preference for outdoor space,** which research question three explained encompassed a decrease in the popularity of a balcony and an increase in the preference for a garden. 66.0% expect to fully stay with their new preference, and 26.0% expect to mostly stay with it. This is higher than average.

Research question three highlighted that due to the Corona crisis, people are willing to move further away, namely to another municipality or to another province. Of the respondents whose preferences changed like this, **42.9% expects to fully stay with this new preference even after the crisis is over, and 41.1% expect to mostly stay with it**. In total 12,5% expect to go mostly or fully back to their preferred moving distance from before after the crisis is over.

Another finding of research question three was that respondents currently wish to live in smaller cities than before. The analysis of table 12.2 shows that **a quarter of the respondents whose preferred city size changed (24.0%) expect to fully stay with new preference.** This is **less than the average expectancy.** However, 52.0% expect to mostly stay with their new preferred city size. Yet still **a fifth (20.0%) expect to go back mostly or fully to their previous preference, which is also higher than average.**

Research question three further elucidated that more people currently consider living in more quiet neighborhoods than before. In total 82.9% of the respondents whose preferred neighborhood changed expect to stay mostly or fully with their new preference even after the crisis is over. This is higher than average.

Lastly, the number of people who expect their newly preferred amenities to mostly or fully stay like this is in total 81,9%, which is **approximately average.**

12.2 Chapter closing

The previous paragraphs explored whether respondents expect their changed preferences to be permanent or temporary. With this, research question five, '*What are the possible long-term consequences of the Corona crisis on housing preferences of (aspiring) owner occupiers?'*, has been answered. The findings of this chapter are recapitulated in chapter thirteen, paragraph 13.6.

Part IV
Final results, Discussion & Conclusion

The following chapters present and discuss the results of each research question and answer the main research question. First, a summary of results is provided in Chapter thirteen followed by a discussion of the most important findings in Chapter fourteen. This structure has been chosen because of the large number of available results. Part IV ends with the conclusion.

13. Final Results

This thesis researched whether and how stated housing preferences of (aspiring) owner occupiers in the Dutch housing market changed due to Corona. The research focused on expressed stated preferences, and thus measured the perception of the respondents of how Corona influenced their housing preferences. The respondent group consisted of people who subscribed to the newsletter of NieuwbouwNL, and as such have shown an interest in buying a newly built house. The respondent group was thus oriented to the newly built housing market. Furthermore, the respondents were all inclined to move and were actively looking to buy a house, and thus a stated preference could be measured. This chapter summarizes the findings of each sub question, which are then discussed in chapter fourteen. First, the characteristics of the respondent group are recapitulated.

13.1 The characteristics of the respondent group

The respondents were between nineteen and eighty-six old, and the modes of the bimodal distribution were 29.7 years and 58 years. The group was highly educated; 61.3% obtained a bachelor's degree at a university of applied sciences (Dutch: HBO) or higher. Their combined net income was most often between the €3.000 and €4.000 (23.5%), or between the €4.000 and €5.000 (22.5%) a month. The respondents most often belonged to multi person households without children (54.5%). A quarter (27.0%) Belonged to a multi-person household with children, and 18.5% lived alone. The age distributions within the different household compositions correspond with the related life-course events.

The majority live in the Randstad (72.7%), and most people live in (very) highly urban areas (64.9%). In correspondence with this, 27.0% of the respondents perceive their city of residence as metropolitan, 27.2% as a normal-sized city, 28.2% as an average-sized or big village. Most people (52.3%) currently live in a quiet residential area, and a quarter (23.9%) live in a vibrant city district.

The majority (68.0%) of the respondent group is currently already homeowner. 31.0% owns a dwelling with a worth between €300.000 and €400.000 euro, and 27.0% owns a dwelling worth between the €400.000 and €600.000 euro. Of the 32.0% of the respondents who currently rent a dwelling, half rents in the private sector (53.75%) and half in the social sector (46.25%). Off all respondents paying rent, a big group (40.2%) pay a maximum of €752.33 in rent monthly. A quarter (26.5%) pays between the €901 and €1200 in rent each month.

Most respondents currently live in a terraced dwelling, in-between dwelling, corner house, or quadrant house (42.9%). A third (33.6%) lives in an apartment or flat. A tenth (11.4%) lives in a semi-detached house, and 8.5% lives in a detached house. The size of these dwellings is most often smaller than 100 m^2 (42.6%). A quarter lives in a dwelling between a 100 m^2 and 125 m^2 big (24.8%, the median). A third (32.6%) lives in a dwelling bigger than 125 m^2. Most often, respondents have four rooms for activities such as sleeping or working in their dwelling (28.3%). A quarter of the respondents have three rooms (25.3%), a fifth has two rooms (20.0%), and 9.5% have only 1 room. Two thirds of the respondent group currently have a garden with their dwelling (66.0%), and a third has a balcony (34.3%).

13.2 Ongoing trends

The following paragraphs summarize the ongoing trends in housing preferences from before the Corona crisis started. This comprises the answer to sub question one; '***What were the trends in housing preferences of (aspiring) owner-occupiers in the Dutch housing market before the Corona crisis started?'***.

The changes in housing preferences which were already in motion were thus the following:

- Households, mainly multi person without children and over thirty years old, leaving the Randstad in favor of Gelderland, Drenthe and Limburg.
- Households, mainly multi person with young children, leaving the highly urban areas and the big cities with little amount of living space and the lack of a garden, towards less urbanized regions and smaller cities, but staying within the current province.
- Households moving towards the rural areas.
- People increasingly working from home in the last decade at least.

13.3 The expressed stated housing preferences of the respondent group, during the Corona crisis

The following paragraphs summarize the current preferences of the respondent group. This comprises the answer to sub question two; '***What are the (stated) housing preferences of (aspiring) owner occupiers in the Dutch housing market during the Corona crisis?'***. When the options concerning housing attributes encompassed categories, respondents were able to select multiple options they consider. This is referred to as 'considering'. When it encompassed a range, respondents selected solely one. This is referred to as 'preferring'.

The dwelling types which the respondent group considers are foremost the terraced dwelling (48.2%), the apartment (40.0%), the semi-detached dwelling (37.9%) and the detached dwelling (28.9%). The dwelling size which is preferred is most often between the 100 m^2 and the 125 m^2 (32.2%), or between the 75 m^2 and 100 m^2 (26.9%). In these dwellings, 40.4% of the respondent group prefers three rooms for activities such as sleeping or working. A third (31.4%) prefers two such rooms, and a fifth (20.0%) prefers four. The outdoor space which respondents want and consider are a garden (78.9%), a balcony (37.7%), a courtyard (14.0%) and a patio (13.0%).

The price respondents prefer to pay for the dwellings they consider is often between the €300.000 and €400.000 (26.6%). Almost a quarter (24.0%) is in search for a dwelling between €400.000 and €600.000. Approximately a fifth (18.7%) prefers a dwelling between €250.000 and €300.000. All in all, nine of out ten people (92.7%) are in search of a dwelling which is less than €600.000. Of half of the respondents (45.5%) it is known that they are aware of their financial capabilities and the communicated preference is realistic. Of the other half it is uncertain whether their preferred price is realistic and thus in how far their preferences are stated.

The location of the new dwelling is for 61.7% of the respondents a sure preference, while 38.3% considers multiple options. Most people (57.9%) consider moving within the current municipality. Another big group (43.7%) considers moving to another municipality within the current province, and 20.4% considers moving to another province. 67.1% of the respondent group considers moving to a Randstad province, and 64.8% considers a province outside of the Randstad. The provinces most often considered are Gelderland (46.3%), Utrecht (44.0%), North-Holland (31.9%) and South-Holland (30.5%).

A group of 47.3% of the respondents considers living in a village. 39.0% considers living in a small city, and 35.7% considers living in a normal-sized city. Within those cities, the majority considers living in a quiet

residential area. A third (35.9%) considers living smaller, namely village-like, and a fifth considers living rural. Another third (31.0%) considers living more urban, namely in a vibrant city district.

The amenities which people consider most important to have at walking distance are shops for daily groceries (89.9%), public transportation (50.9%), functional greenery (50.6%), nature (46.9%) and healthcare facilities (39.0%). Furthermore, hospitality is considered important (36.2%), same as sports facilities (26.5%), educational facilities (24.8%), play facilities for children (22.4%) and cultural facilities (17.4%).

13.4 The change in expressed stated housing preferences of the respondent group

The following paragraphs describe the changes in the stated housing preferences as expressed by the respondents by way of an enumeration of the most important findings. It furthermore enumerates the changes in reasons for wanting to move, and the changes in motivation factors. Additionally, explanations for the changes are provided. This provides the answer to question three: '***In which way have (stated) housing preferences of (aspiring) owner occupiers in the Dutch housing market changed due to the Corona crisis, and why?'***.

So, in which way have housing preferences changed due to the Corona crisis, and why?

- A relatively small part of the respondents (on average 3.4% per attribute) changed their preferences concerning a housing attribute.
- In total 17.8% indicated that their preference for at least one housing attribute has changed because of the Corona crisis, and thus their preference has changed at least in part. These respondents are currently in search of a different dwelling than before the crisis started because of Corona. However, seeing as nine attributes were researched, the bigger part of their preference remains unaffected by the crisis. Furthermore, for the majority of the respondent group (82.2%), their housing preferences were *not* changed by the Corona crisis.

Dwelling attributes

- The preferred number of rooms have been significantly affected by the Corona crisis. Nine out of ten people whose preferred number of rooms changed due to Corona, currently want *one* room more than before the crisis (90.1%). The extra room is not a preference but a requirement. The room is required for a workplace.
- The preferred number of rooms has changed almost *twice more often* than the preferred size of the dwelling (relatively 6.2% and 3.6%).
- For respondents whose preferred dwelling size changed because of Corona, a bigger dwelling is most often preferred (74.6%), and 15.8% want a smaller dwelling. Reason is in the first place the need for a workplace, and secondly the need for personal space to not live in each other's pockets.
- For respondents whose preferred dwelling size changed but *not* because of Corona, only 52.4% currently wants a bigger dwelling a bigger part is currently in search of a smaller dwelling (30.2%). . Reasons for this are decreasing household compositions, decreasing financial possibilities or increasing housing prices.
- Even though the number of respondents whose preferred dwelling type changed is relatively low (2.3%), the change does show a clear trend. While the apartment decreased in popularity (from 43.8% to 31.3%), the terraced dwelling type increased (from 25.0% to 59.4%). Furthermore, de semi-detached and detached dwelling were more often considered due to Corona. Reasons are working from home and the wish for a garden or nature close by, since place and space in *and* outside of the house were required for working from home. Furthermore, some respondents have become beware of the contamination risks posed by shared and/or public spaces.

- The increase in preference for the terraced dwelling type is related to the increase in preference for obtaining a garden (from 65.9% to 90.9%), and the decrease in popularity of the apartment is linked to the decrease in preference for a balcony (from 47.7% to 27.3%).
- Reasons for the changed outdoor space preference (which changed for 3.4% of the respondents due to Corona) correspond to the reasons for the changed dwelling type preference: three out of four respondents mention a need for greenery, space and/or freedom. This because outdoor space provides social possibilities (now and in possible future pandemics), entertainment (hobbies, gardening), and supports mental health (fresh air, sunlight).

Price

- 5.2% of the respondents indicate that due to Corona they current search a dwelling in different price range than they did before the start of the crisis. More than half of them (57.9%) are in search for *one* price range higher, 64.5% searches higher in general. Among the respondents whose change was not caused by Corona, a higher percentage is in search of a higher price range, namely 79.9%.

- Half of the respondents name the increased housing prices as a reason for the changed target price. On the one hand, there are respondents who, due to the increase in prices, stayed with their housing preferences but increased their budget. Others stay with their budget and adjust their housing preferences.

- Respondents whose price changed due to corona more often have fewer financial possibilities, due to e.g., job loss. Respondents whose price range changed *not* due to Corona more often have *more* financial possibilities, due to more surplus on the current dwelling, increase in income and having obtained a promotion. The difference between having fewer or more financial possibilities between these groups of respondents, explains the difference in targeted price range between them.

- Furthermore, since most people whose financial possibilities decreased appointed Corona the cause, while people who experienced an increase in financial possibilities did not, it appears that respondents are more likely to point out Corona as the cause for a *decrease* then for an *increase*.

- The group having increase possibilities is relatively twice as big as the group having fewer financial possibilities. A possible explanation could be the high education level of the respondent group. Highly educated people more often work in sectors profiting from the crisis and encompassing many office jobs, which were, as mentioned in paragraph XX, possible to continue being executed from home. Since the respondent group is highly educated, this would explain why more respondents have *increased* financial possibilities then *decreased*.

Location

- The preferred moving distance, which changed because of Corona for 3.8% of the respondents, shows that people have become more willing to move further away. The number of people who consider moving to another municipality within the current province rose from 30.4% to 71.4%. The number of people considering moving to another province increased from 12.5% to 39.3%. The main reason mentioned is that the search area has expanded due to the permanent implementation working from home at least in part, and the resulting possibility to live physically far away from the workplace.
- The respondents whose changed preferences were *not* caused by Corona display a similar trend, although less strong. Reasons among this group are more often of financial nature, i.e., the high housing prices in the urban areas, and the shortage of the supply (in quantity as well as quality).

- Among the 1.7% of respondents whose preferred city size changed because of Corona, which is a relatively low number, a very clear trend is visible. Respondents wish to live in smaller cities than before. The normal-sized city decreased in popularity (from 80.0% to 24.0%), the small city gained in popularity (from 28.0% to 40.0%) and the (large village) became most preferred (from 12.0% to 76.0%). People

dislike the nuisance, disturbance and confinement which the current living environment supplies them (as explained in chapter seven, the respondent group currently lives in (very) highly urban areas (64.9%)). Correspondingly, respondents wish for more tranquility.

- Similar to the willingness to move further away, respondents mention working from home and financial reasons in their explanations for changing the preferred city size. This makes sense, since smaller cities are situated in less urban regions, which is further away from the current places of residence of the respondent group, who currently often live in (highly) urban areas (64.9%).

- Correspondingly, the 2.4% of the respondents whose preferred neighborhood changed due to Corona currently more often consider living more quiet neighborhoods such as a quiet residential area (from 45.7% to 80.0%), a village-like area (from 11.4% to 57.1%) or rural (from 11.4 to 34.3%) while living in a vibrant city district or in the inner city became less preferred. Reasons often mentioned are the wish for more privacy (less densely populated) and tranquility and wanting space and nature. The latter two are perceived as means to acquire the first two.

Amenities

Lastly, the amenities preferred close by changed for 2.3% of the respondents due to Corona. This is relatively often, since the amenities changed for 2.2% of the respondent *not* due to Corona.

- Amenities which gained in popularity are having nature close by (63.6%), functional greenery (54.5%) and shops for daily groceries (18.2%). Reasons for this are that due to Corona, people have been outside more and have learned to appreciate walking and the greenery.
- Amenities which respondents indicated decreased in popularity because of Corona are hospitality (36.4%), shops for fashion and luxury (36.4%), cultural facilities (21.2%) and businesses (12.2%). People don't mind travelling a bit more for amenities or have discovered they don't miss those facilities.
- In general, respondents often mention the need for being outside, the need for nature and the need for taking walks. Furthermore, due to the working from home, division of time is more flexible, and this provides freedom for other activities, which created "the need to fill in time more independently, with own activities". In line with this, respondents mention often that physical stores for luxury and fashion have decreased in importance since shopping is available online as well. In general, people to be thinking more consciously about the future since corona.

Reasons for changing housing preferences

The analysis of changes in these reasons for wanting to move showed that for 3.2% their reasons changed due to Corona.

- The crisis caused more people to find their dwelling no longer suffices; For 55.8%, currently their dwelling no longer suffices, whereas this was the case for 44.2% before Corona. Explanations mentioned often were the need for a workplace, the need for more space in the dwelling, or the wish for a garden. This all comes down to that "working from home requires space in the house and the opportunity to relax outside (garden)."
- Furthermore, Corona caused people to no longer be satisfied with their current living environment. This reason was cause for 2.3% before Corona, and for 25.6% now. Explanations were the current (often urban) living environments not being appreciated anymore due to the crowdedness, and nature and space being appreciated more than before.
- Corona caused people to change their household composition (from 18.6% to 32.6%). Corona caused among others break-ups, and children moved to the parent's house which had the most privacy or best study space.
- Lastly, as is evident, Corona caused people to want to live closer to nature (from 14.0% to 39.5%).

Reasons for the changing housing preferences further originate from the impact Corona has had on motivation factors and thus people's lifestyles.

- Analysis showed that 28.2% of the respondents have become lonelier due to Corona.
- 14.2% state Corona made them want to live closer to family and/or friends.
- Due to Corona, half of the respondents (50.8%) want to *visit* nature more often, and a third (30,9%) wants to *live* in an environment with more greenery.
- 41.9% want to work from home more often, and a quarter (25.1%) finds it less of a problem to live further away from the workplace.
- 23% want to be less dependent on public transportation.
- 18.4% wants to live *closer* to amenities.

It appears that the group whose preferences were changed due to Corona more often mention reasons concerning *wants and needs*, whereas people whose preferences were changed due to other factors than Corona more often mention what they *can* possibly achieve. Paragraph 14.1.5 reflects further on this.

13.5 The difference in change of expressed stated housing preferences between various subgroups

The following paragraphs describe the differences in changes between the subgroups of respondents, by way of an enumeration of the most important findings. This provides the answer to question four: ***"In which way does identified change in preferences differ between various groups of owner-occupiers?".***

Firstly, there is a statistically significant relationship between the household type and whether moving reasons, the preferred dwelling type, the preferred price range, the preferred moving distance from the current place of residence, and the preferred neighborhood characteristics have changed.

- **The reasons for moving** have changed approximately twice as often because of Corona for multi-person households with children (5.1%), then for multi person households without children (2.7%) or for single person households (2.1%)
- **The preferred dwelling type** changed three times as often because of Corona for multi person households with children (4.2%), then for multi person households without children (1.7%) or for single person households (1.1%)
- **The preferred price range** changed most often because of Corona for multi person households with children (8.0%) or single person households (5.7%). For multi person households without children, the preferred price range changed for 4.3%.
- **The preferred moving distance** from the current place of residence changed more often because of Corona for single person households (5.7%) then for multi person households without children (3.4%) or, finally, with children (3.9%).
- Finally, **the preferred neighborhood characteristics** changed because of Corona more often for single person households (4.2%) then for multi person households with children (2.9%) or without children (1.7%).

In other words:

- For **single person households**, the Corona crisis mostly affected their preferred moving distance from the current place of residence (5.7%), and the preferred neighborhood characteristics (4.2%). Moreover, the crisis affected their preferred price range (5.7%), their moving reasons (2.1%) and their preferred dwelling type (1.1%).

- For **multi person households with children,** the Corona crisis mostly affected their preferred price range (8.0%) as well as their reasons for moving (5.1%) and their preferred dwelling type (4.2%). Moreover, the crisis affected their preferred moving distance (3.9%) and neighborhood characteristics (2.9%).

- For **multi person households without children**, the Corona crisis affected their preferred price range (4.3%), moving distance (3.4%), their moving reasons (2.7%), their preferred dwelling type (1.7%) and their preferred neighborhood characteristics (1.7%). However, the effect of the crisis on housing preferences was for each of these attributes more prominent for either the single person households or for the multi person households with children, than for the multi person household without children.

Secondly, there is a statistically significant relationship between the urbanity of the current place of residence and whether preferred number of extra rooms (i.e., for sleeping or working), the preferred price range or the preferred moving distance from the current place of residence have changed.

- **The preferred number of extra rooms in the dwelling** have approximately changed more often because of Corona the higher the level of urbanity of the current place of residence is. Furthermore, the preference changed twice as much because of corona, then it changed *not* because of the crisis.
- A tenth of the respondents living in very highly urban areas changed the preferred number of rooms because of Corona, in comparison to 4.2% of respondents in highly urban areas, 4.7% in moderately urban areas and 3.9% in hardly to not urban areas.
- The **preferred price range** changed more often because of Corona the higher the level of urbanity of the current place of residence is and decreases the less urban people currently live. 7.1% of the respondents living in very highly urban areas changed their preferred price range, in comparison to 6.1% of respondents in highly urban areas, 4.4% in moderately urban areas and 2.6% in hardly to not urban areas.
- The **preferred moving distance** changed more often because of Corona for people currently living in urbanity level three (5.5%) and one (4.8%). It stands out that the ratio of people whose preferred moving distance changed, but *not* because of Corona, is highest in urbanity level one and decreases the lower the urbanity level is. This trend is not visible for the respondents for who Corona caused the changing preferences.

In other words:
- For **residences in very highly urban areas,** the Corona crisis mostly affected their preferred number of rooms (10.4%), preferred price range (7.1%) and their preferred moving distance from their current place of residence (4.8%).
- For **residences in highly urban areas**, the Corona crisis mostly affected their preferred price range (6.1%), preferred number of rooms (4.2%) and their preferred moving distance (2.8%).
- For **residences in moderately urban areas**, the Corona crisis mostly affected their preferred moving distance from the current place of residence (5.5%), their preferred number of rooms (4.7%) and their preferred price range (4.4%).
- For **residences in hardly to not urban areas**, the Corona crisis mostly affected their preferred number of rooms (3.9%), preferred price range (2.6%) and their preferred moving distance from their current place of residence (2.6%).

13.6 The permanence of the change

The following paragraphs enumerate whether the identified changes in housing preferences caused by the Corona crisis are expected to be temporary or structural. This provides the answer to question five: ***"What are the possible long-term consequences of the Corona crisis on housing preferences of (aspiring) owner occupiers?"***. With these findings it is important to bear in mind that these are uncertainties. The results described present the expectations of the respondents concerning future wants and needs, in a future environment and market.

On average, the majority of the respondents expect to fully (45.9%) or mostly (34.7%) stay with their new preferences once the crisis is over. The minority expect to go mostly (7.8%) or fully (6.0%) back to their previous preferences. On average, 5.6% indicate not knowing what their preference will be. In total, four out of five respondents expect to (mostly) stay with their new preference, even after the crisis is over.

Per housing attribute, the respondents themselves…
- Relatively often expect their newly preferred number of rooms to fully (59.3%) or mostly (26.4%) stay.
- Relatively often expect their newly preferred dwelling size (m^2) to fully (57.7%) or mostly (25.0%) stay.
- Are, of all the housing attributes, most uncertain about the permanence of the preferred price range. Furthermore, solely 27.6% of the respondents expect to stay fully with their new preferred price range, and 25.0% expect to stay mostly with it, which is lower than average. Moreover, the ratio of respondents expecting to go mostly (17.1%) or fully (19.7%) back to their previous preference is much higher than average.
- Are uncertain about the permanence of the preferred dwelling type. However, still 50.0% of the respondents indicate expecting to stay fully with their newly preferred dwelling type, and 37.5% indicate expecting to stay mostly with it.
- Often expect to stay fully (66.0%) or mostly (26.0%) with their changed preference for outdoor space. This is higher than average.
- Expect to stay fully (42.9%) or mostly (41.1%) with their new preferred moving distance.
- Not often expect to *fully* stay with their newly preferred city size (24.0%) and more often than average expect to go mostly or fully back to their previous preferred city size (20.0%).
- Often (82.9%) expect to mostly or fully stay with their newly preferred neighborhood, which is more often than average.

In other words:
- Respondents are relatively sure about their new preference for the number of extra rooms being permanent, and they are nearly as sure of staying with their newly preferred dwelling size as they are sure about the number of rooms.
- Of all the housing attributes, the permanence of the preferred price range evokes the most uncertainty: less respondents than average expect to stay with their new preferred price range. Moreover, ratio of respondents going back to their previous preference is much higher than average.
- The dwelling type, like the price range, evokes uncertainty among the respondents. For this attribute, 9.4% of the respondents indicate not knowing whether to stay with their new preferences or to go back to their previous ones, which is more than average. However, still 50.0% of the respondents indicate expecting to stay fully with their newly preferred dwelling type, and 37.5% indicate expecting to stay mostly with it.
- Most respondents expect to stay with their changed preference for outdoor space.
- Respondents often expect to stay fully (42.9%) or mostly (41.1%) with the newly preferred moving distance, which chapter 10.3.1 explained was further away than before.
- Less respondents than average expect to fully stay with new preferred city size, and more respondents than average expect to go mostly or fully back to their previous preference. Au contraire, respondents more often than average expect to stay with their newly preferred neighborhood (82.9%).

14. Discussion of the results

Part III of this thesis presented the research results per research question, which were then summarized in the previous chapter. As such, the previous chapter explained which changes in preferences were already in progress before the start of the crisis and expounded whether change transpired because of the crisis, what change transpired, among which groups this change transpired, why this change transpired, and whether the change is expected to be temporary or permanent. This chapter focusses on the main and noteworthy findings and discusses these through relating them to literature and market research. Moreover, explanations for the perceived connections between results are explored. The chapter furthermore debates the limitations of the research and suggests opportunities for further research. Following this chapter, chapter fifteen presents the conclusion to the main question: ***'What is the effect of the Corona crisis on the housing preferences of (aspiring) owner-occupiers in the Dutch housing market?'***

14.1 The characteristics of the respondent group

14.1.1 Age and life-course events

The characteristics of the respondent group have been summarized in paragraph 13.1. For this research, age was expected to be an important characteristic since life course events have an effect on changing housing preferences and could thus be a possible confounding factor in measuring the change caused by the Corona crisis. Chapter seven presented the age distributions per household type. As explained in chapter eleven, the Corona crisis impacted the preferences of single person households and multi person household with children more than it impacted the preferences of the multi person households without children. Would age – and as such life course events – have been confounding in measuring the changed preferences, the multi person household without children would have been more affected, since this household composition has the most defined age distribution in which the life course events are clearly visible. Additionally, the qualitative data showed for each attribute that respondents were able to separate the life course events from Corona as the cause for their change. Respondents who stated that Corona did *not* cause their change in housing preferences mentioned a changing household composition *more often* in their reasoning than respondents whose stated their changed preference was caused by the Corona crisis. An analysis of the qualitative input of the respondents who did state that Corona caused their changing household composition, showed that for most of them this was indeed the case. For example, for one respondent her "weekend foster daughter could not continue to live in the shelter where she was. She has now come to live with me […]". For another, the wish move out of the parents' house has increased due to being home with home with them so much. And yet another respondent mentioned, as stated in paragraph 10.4.2, that because of corona her daughter went to live with her father due to there being no privacy or an adequate place for studying at her home". It is unclear whether Corona indeed caused the changing household composition or all respondents who stated this, or whether Corona was in fact not the true cause, but all in all, it can be concluded that respondents in general were able to differentiate between Corona causing their changed housing preferences and life-course events causing this. As such, age is disregarded as a confounding factor.

14.1.2 Level of education and housing preferences

The respondent group were more highly educated than the average Dutch population. As explained in chapter seven, two thirds of the respondent group are highly educated in comparison to one third of the Dutch population. This might have had an effect on the outcomes of the study, since the expectation is that the respondent group thus practices jobs in fields which profited from the crisis, and which could be executed from home. The respondent group thus worked from home much during the crisis and expects

to continue doing so after Corona, and this has impacted their housing preferences. It is thus suspected that there is a relation between the level of education and the impact of Corona on housing preferences. Further research is needed in order to ascertain this.

14.1.3 Income and housing preferences

Related to the level of education is the income of the respondents. The survey inquired what the combined income was. Through analyzing the qualitative data, a changing housing preference was often explained through increasing or decreasing income, and as such increasing or decreasing housing possibilities. As discussed in paragraph 10.2.5, an increase in income was mentioned twice as often as a decreasing income, and a relationship with the Corona crisis was more often mentioned regarding decreasing income, than regarding increasing income. This has much effect on housing preferences. Since the survey did not inquire whether income increased or decreased since or because of the crisis but this effect was solely discovered through analyzing the qualitative data, it is not possible to determine what the exact relationship is between education level, changing income and the Corona crisis. Further research is needed to ascertain what this effect is, and in what way it impacts housing preferences.

14.1.4 Current dwelling ownership and housing preferences

Within the respondent group, more people own a dwelling than rent (respectively 68.0% and 32.0%). This has influenced the housing preferences and possibilities, since housing prices have risen enormously in the past year, and thus housing possibilities of the group owning a dwelling have increased correspondingly. Through analyzing the qualitative data, it appeared that many people currently owning a house explained the rise in worth combined enabled them to search in a higher price category currently than before. However, likewise due to the increase in housing prices many of these respondents were in search of the same dwelling size as before. People currently *not* owning a house were forced to search smaller dwelling since they could not afford the price rise. Homeownership thus impacted housing possibilities greatly, and housing possibilities impact preferences. It might therefore be interesting to research the relationship between homeownership and changing housing preferences due to Corona.

14.1.5 Characteristics and changing housing preferences

Lastly, through analyzing the qualitative data, it appears that the group whose preferences were changed due to Corona mostly mention reasons pertaining to what they *want* and *'need'* in dwelling attributes. This group thus mostly takes their housing preferences into account. In contrast, the group of respondents who indicate that their preferences were changed since the crisis, but not because of it, significantly more often mention, besides what they want and 'need' to have, what they *can* have. It appears that this group thus not only takes housing *preferences* into account, but more often also takes housing *possibilities* into account. Among this latter group, respondents more often mention they'd actually prefer something else from what they stated in the questionnaire, but that the housing market does not permit this due to shortage of demanded supply (in quality as well as in quantity) or due to rising housing prices. This is an interesting finding.

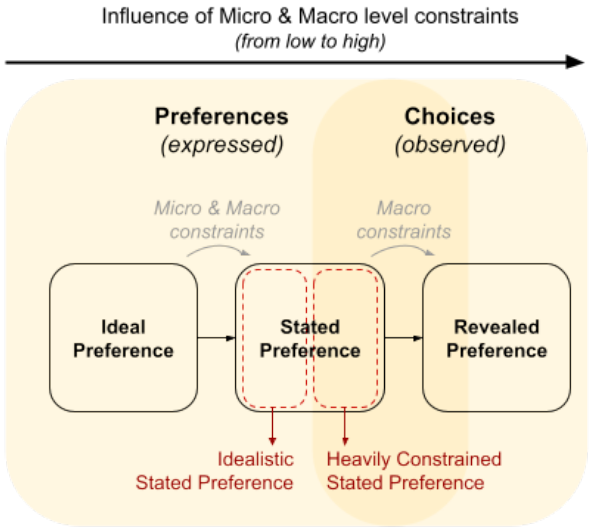


Image 14.1: Adaptation of image 3.1 from paragraph 3.2: The discrepancy between an idealistic stated preference and a heavily constrained stated preference.

A possible explanation could be that respondents who state that their preference changed due to Corona more often disclose a relatively idealistic stated preference in relation to the respondents who indicate Corona did not cause their changed preference, and who might disclose a more heavily constrained stated preference (see image 14.1). Since it was not possible to measure in how far respondents' preferences were stated or ideal, because it's not measurable in how far people actually did take their possibilities into account, which was required for the questionnaire, the difference herein is unknown.

Another possible explanation could be that the housing possibilities of both groups differ. Perhaps the respondents whose state that their preferences were influenced by Corona thus have the possibility to adapt their housing preferences to the new situation as they are less financially constrained, while the other group of respondents, who have less housing possibilities, cannot adjust their budget in favor of their preferences. Even if corona might have actually changed those preferences.

The result is that the characteristics of the respondents whose preferences changed due to Corona, and the respondents whose preferences changed but not due to the crisis, might differ. The first group of respondents might encompass relatively many people with much financial possibilities or, in other words, few financial restrictions so that their preferences can be executed as desired. Accordingly, this group might encompass many highly educated people who work in sectors profiting from the crisis, and who were able to continue working from home during the crisis while their expenses decreased, and who thus might have experienced an increase in income, as elucidated in paragraph 2.2.2. Additionally, this group might encompass relatively many homeowners who, as explained in paragraph 14.1.4, might have increased housing possibilities due to increasing housing prices. However, this group might also encompass relatively many people whose preferences are relatively ideal instead of stated, and who hence disclosed their current preferences because of Corona whilst not taking into account whether they can afford this.

The second group of respondents, whose preferences changed since but not due to the crisis, encompasses mainly people whose preferences changed due to other reasons, which are often life course events or the increased housing prices. However, this group might also encompass people whose preferences actually *did* change because of Corona, but who cannot afford to meet those new preferences due to financial constraints. Since the expectation is that these respondents have taken their financial possibilities into account and hence as the survey required disclosed their stated preference i.e., the house which they are searching for and which they can possibly afford, their changed preferences due to Corona will not have appeared in the survey. This would mean that actual change due to Corona in housing preferences, separate from the effect of housing prices, might be higher than this research exposed. This will be further elaborated in paragraph 14.8.3. Nevertheless, further research is thus required in order to research the differences in characteristics of the groups of respondents whose housing preferences were changed due to and not due to Corona, and the differences of their expressed preferences.

14.2 Ongoing trends

Market research showed that there were housing preference trends which were already in progress before the crisis started. All trends are to a greater or lesser extent visible in the research results of this thesis. Paragraph 14.4 and 14.5, which discuss *what* the changes in housing preferences are and *why,* and among *who*, reflect back on this.

14.3 The expressed stated housing preferences of the respondent group, during the Corona crisis

The current expressed stated housing preferences of the respondent group were inquired in order to shape an image of the general preferences, but even more so were used in the survey as a guidance for the respondents in shaping their answers. This was done from the notion that it's easier to reason about whether a preference has changed, if this question is approached from a current position. Furthermore, *if* a respondent indicated that the preference had indeed changed, the current preference was used to measure this change. Since research into the current preferences of the respondent group were outside of the scope of this thesis, this data has not been analyzed yet. As such, herein lies concurrently an interesting option for further research.

14.4 The change due to Corona in expressed stated housing preferences of the respondent group

The following paragraphs discuss the most important findings concerning what change transpired and why and relate these findings to literature or market research.

14.4.1 Changed housing preferences

For starters, as stated in paragraph 13.4, housing preferences for a certain attribute changed on average for 3.4% of the respondents due to Corona. This is an interesting finding seeing as the image of changes in housing preferences due to Corona, as constructed by the media, suggests much change has taken place and for many people. However, of importance is that due to the crisis, for 17.8% of the respondents their preferences changed for at least one housing attribute and thus changed at least in part. In practice, this means that approximately one out of five people is in search of a different dwelling than they were before Corona, *because of* Corona. Even though nine attributes were researched, and the bigger part of the preference remains unaffected by the crisis, this ratio is still significant. Especially since the target group concerns people (aspiring) to participate in the owner-occupied housing market. Since buying a house is a big investment made for many years to come, the change in preferences due to Corona can be expected to be more modest than would have been the case if people participating in the rental market would have been subject of the research. As such, it is explainable that for the majority of the respondent group (82.2%), their housing preferences were *not* changed by the Corona crisis, and that the 17.8% who did change their preference are regarded as significant.

14.4.2 So, what change in preference did Corona incite?

Dwelling size

As discussed, Corona has had the biggest effect on the preferred number of rooms in a dwelling: respondents currently want one room more than before. This trend is a direct consequence of the increased working from home. Since many respondents indicate their employers have announced the continuation of working from home after the crisis is over, this permanently implicates people their home environments. Consequentially, respondents have stated the extra room is not just a preference but is a requirement. A reason for the preferences for this specific attribute being changed so much and being changed in this certain way, is found in the high level of education of the received respondent group. As discussed in chapter seven, the respondent group is twice as highly educated as the Dutch population on average. Since, as explained in paragraph 2.2.2, many high-paying jobs are executed by highly educated workers in sectors which are least impacted by the crisis, and this concerns jobs which are possible to be executed from home, it follows that the respondent group encompasses a large number of people who worked from home much in the past year and thus require a workplace there.

As explained in paragraph 14.1.1, age – and as such life-course events – have been ruled out as a confounding factor. This is corroborated here since respondents whose preferred number of rooms changed due to other factors than the crisis significantly more often mention a changing household composition as the cause, which is related to life-course events as has been explained in paragraph 4.2.1. Hence, age is not a confounding factor in the preference for this attribute seeing as respondents were very able to differentiate between this or Corona being the cause. Reason for the respondents being able to differentiate well between the causes is that changes in preferences for this attribute relate to changed *targeted motivations*, as has been discussed in paragraph 4.2.1, namely, the employment trajectory or a life-course event. This will be further elaborated in paragraph 14.8.3. All in all, it can be concluded that due to the Corona crisis, respondents require in general (nine out of ten times) one more room than they previously did to provide them a workplace, and that this is a solid, unconfounded finding.

As shown in paragraph 13.4, the preferred number of rooms has changed *twice more often* than the preferred size of the dwelling; The number of rooms is thus imperative. Though of the respondents for who the crisis affected their preferred dwelling size, three out of four want a *bigger* dwelling because of Corona. Solely 15.8% want a *smaller* dwelling. As explained, reasons mentioned are firstly the need for a workplace, and secondly the need for personal space to not live in each other's pockets. Among respondents whose preferred dwelling size changed but *not* because of Corona, only half currently want a *bigger* dwelling. The number of people being in search of a *smaller* dwelling is twice as large in this group (30.2%). As discussed, reasons for this are decreasing household compositions, decreasing financial possibilities or increasing housing prices.

As explained in paragraph 14.1.5, there is a discrepancy between the answers provided by the two groups of respondents. Whereas respondents whose preferences changed due to Corona more often mention what they *want* and *need,* respondents whose preferences changed due to other factors than the crisis more often mention housing *possibilities,* i.e., what they *can*. This observation is clearly visible in the changes and reasons for this of the preferred dwelling size as just discussed. As discussed in paragraph 14.1.5, the *preference* for a certain dwelling size is often leading for the first group of respondents. This is visible here in respondents indeed wanting in general bigger dwellings and respondents mentioning reasons concerning wants and needs. Whether this is so because they can afford more due to e.g., a higher income, being more highly educated, or being more often homeowner, or whether their preferences are more ideal then stated requires further research, as discussed in paragraph 14.1.5. For the second group of respondents, the housing possibilities thus seem to be leading. This is apparent from respondents wanting more often smaller dwellings, and more often mentioning financial possibilities. Whether this group can afford less due to e.g., a lower income, being lower educated, or being less often homeowner, or whether they disclose a preference which is to a greater extent *stated* and less ideal, remains the be researched.

Dwelling type and outdoor space

As paragraph 13.4 elucidated, even though the number of respondents whose preferred dwelling type changed is relatively low (2.3%), the change does show a clear trend. Corona caused respondents to not prefer an apartment anymore, but caused them to prefer terraced dwelling type, or a (semi) detached dwelling. This trend is confirmed by the Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A. (2021, p. 2), who state that "the price of detached houses increased the most: 19.2% in one year". Additionally, they state that housing prices have risen less in Amsterdam than in the other four biggest cities, which is explained among others due to Amsterdam encompassing relatively many apartments, which have decreased in popularity. Prices of apartments still increased (with 14%), but this increase was less than for other dwelling types. (Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A., 2021)

There is a relation between changes in the preferred dwelling type and changes in the preferred outdoor space (which changed for 3.4% of the respondents due to Corona), since reasons for both preference changes correspond: three out of four respondents mention a need for greenery, space and/or freedom.

This suggests that the outdoor space is leading in causing the preference change for the dwelling type. Along with the decrease of popularity of the apartment and increase of popularity of the terraced or (semi)detached dwellings, the preference for a garden increased for 90.0% of the respondents while it caused less respondents to consider a balcony. Similar to the preferred size of the dwelling, the changes in preferred type and outdoor space are caused mainly by the working from home, which made people require place and space in *and* outside of the house. Furthermore, outdoor space provides social possibilities (now and in possible future pandemics), entertainment (hobbies, gardening), and supports mental health (fresh air, sunlight) in times of being home much of the time. Even though respondents of both groups mention that the type of outdoor space is subsidiary, and the requisite is having outdoor space in the first place, people in general value a garden more than other types of outdoor space. However, it appears that people settle for other types of outdoor space besides the garden due to constraints, e.g., financial or supply constraints. This effect is more prominently visible among respondents whose preferred outdoor space changed, but not due to the crisis, and thus this effect corresponds to the perceived discrepancy between preference changes of both respondent groups as discussed in paragraph 14.1.5.

Targeted price range

As discussed in paragraph 10.2.5 and paragraph 13.4, Corona impacted the preferred price range. While it caused three out of five people to search for a dwelling in a higher price range, it also caused approximately a quarter to target a lower price range. Among the respondents whose change was *not* caused by Corona, more people, namely four out of five, are searching for a dwelling in a higher price range.

As mentioned in paragraph 14.1.5, there is a discrepancy between the answers provided by the two groups of respondents. This is also the case for the preferred price range, as is plainly visible in table 10.16, which is repeated in this paragraph for providing clarity. However, concerning this attribute it appears that respondents whose target price changed due to corona more often mention having *fewer* financial possibilities, due to e.g., job loss. Respondents whose price range changed *not* due to Corona more often mention having *more* financial possibilities, due to more surplus on the current dwelling, increase in income and having obtained a promotion. The difference between having fewer or more financial possibilities between these groups of respondents, explains the difference in targeted price range between them. In this case, differences between financial possibilities appear thus to be the main reason for the differences in preference changes, *not* a more or less idealistic or realistic view of a stated preference. Since differences between financial possibilities might be caused by differing characteristics between the respondents, this might effectuate the discrepancy between their preference-changes. This can be deduced from the fact that people having increased financial possibilities and people having decreased financial possibilities are separated so clearly, *and* from the fact that the first group is relatively twice as big as the latter group. A possible explanation could thus be the high education level of the respondent group. Highly educated people more often work in sectors profiting from the crisis and encompassing many office jobs, which were, as mentioned in paragraph 2.2.2, possible to continue being executed from home. Since the respondent group is highly educated, this would explain why more respondents have *increased* financial possibilities then *decreased*.

It stands out that most people whose financial possibilities decreased appointed Corona the cause, while people who experienced an increase in financial possibilities did not. It thus appears that respondents are more likely to point out Corona as the cause for a *decrease* then for an *increase* in financial possibilities, or, in other words, respondents are more likely to appoint Corona the cause for their failures but appear to attribute the successes to themselves.

Why did the preference change?	*The preference has changed since the Corona crisis, but not because of the Corona crisis (n=248)*	*The preference changed because of the Corona crisis (n=69)*
Changing household composition	*2.7%*	*1.4%*
More financial possibilities	*41.2%*	*11.3%*
Less financial possibilities	*4.3%*	*23.9%*
Price increase	*46.3%*	*52.1%*
In need of a bigger dwelling	*1.6%*	*8.5%*
Other	*3.9%*	*2.8%*

Repetition of table 10.16: Reasons for the change in price range preferences, differentiated on changes *because* of Corona and *since* Corona.

Besides a change in financial possibilities, half of the respondents name the increased housing prices as a reason for the changed target price. As mentioned in chapter two, the Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A. (2021, p. 2) state that transaction prices have risen with 14.7% since 2020, which "has not happened since 2001", and "the average asking price of a house for sale has increased with 10% compared to 2020". As NVM-chairman Hoes states: "It is unprecedented what is happening on the housing market. The low interest rates, the enormous housing shortage and the stable socio-economic outlook are causing shortages and pushing prices up further." (Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A., 2021, p. 1). The NVM U.A. (2021, p. 2) further explain that "The Netherlands has never experienced a tighter existing owner-occupied housing market than now with a tight indicator of 1.7". This means that for each buyer less than two options are available. This shortage of supply is hypothesized to contribute to the difference between the changes in preferences of people who state being impacted in this by Corona, and people who state Corona did *not* cause the change, as explained in paragraph 14.1.5. The expectancy is that respondents whose preferences changed, but *not* because of Corona have taken the tightness of the housing market to a greater extent into account in their stated housing preference than respondents who stated being influenced by the crisis, and hence have adjusted this preference more heavily in response to this.

However, besides the increasing housing prices coercing people to increase their budget correspondingly so that the preferred dwelling stays within reach, there is also possibly an effect in play of an increased willingness to pay. As the Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A. (2021, p. 1) state ""The Covid crisis has gripped the Netherlands for more than a year. Never before has the value of living pleasure for the well-being of our society been so clearly visible as it is now.". With this, the NVM U.A. refers to the overall increased willingness to pay for housing, as housing has become more important due to the crisis. Of course, this furthermore drives up the already high housing prices.

Again, the effect which paragraph 14.1.5. describes is visible here. On the one hand, there are respondents who, due to the increase in prices, stayed with their housing preferences but increased their budget. These respondents might either truly have more financial possibilities, or they might voice a more idealistic stated preference. For example, the newly added requirement of for example an extra room combined with the increased housing prices require more funds for the preferred dwelling. As just elucidated, these respondents increased their willingness to pay. Herein might also lie the just described effect of the increased worth of housing due to the Crisis. The increased willingness to pay might, however, not be similar to or might even be more than their financial possibilities allow them to pay.

On the other hand, there are the respondents who stayed with their budget and adjusted their housing preferences. These respondents might be more heavily constrained by their financial possibilities (on the micro level, as well as on the just elucidated macro level), or/and they might voice a relatively more realistic stated preference than the other respondents. The financial constraints were apparent in the

explanations of respondents for their changed target price range, as has just been elucidated, but also for their preferred outdoor space. Respondents explained they would settle for other types of outdoor space besides the garden due to financial constraints. Furthermore, respondents elucidated adjusting their search area due to financial constraints, so that cheaper locations at further moving distances were considered. This also impacted neighborhood preferences since among the respondents whose preferred neighborhood changed, but *not* due to Corona financial constraints were often mentioned. The overall tenor was that due to the high housing prices, respondents feel forced to search in cheaper, more quiet residential areas.

Moving destination

As the previous paragraph showed, financial constraints are inciting people to move further away towards more affordable areas, the rural areas and towards more quiet, residential neighborhoods. This trend is also caused by the Corona crisis, which paragraph 10.3 concluded made people more willing to move further away. Namely, more respondents are currently considering moving to another municipality within the current province or are considering moving to another province. Additionally, as paragraph 10.3 further concluded, people wish to live in areas with more greenery, more nature nearby, and more space, tranquility and privacy. The overall tenure here is that the dwelling has become imperative to the location, since the permanent implementation of working from home at least parttime "severed the link between the home and the workplace" (Doling & Arundel, 2020, as discussed in chapter two).

As Coulter and Scott (2015, p. 356) state "focusing on self-reported reasons allows analysts to disentangle the factors *motivating* residential moves from the factors *enabling* mobility". For both mentioned cases, the possibility of working from home made permanent has been the *enabler* for moving further away. However, for the first group of respondents mentioned, the *cause* for widening the search range has been the better affordability of dwellings in those areas. Alternately, for the other group of respondents the *cause* for widening the search range has been the mentioned wish for more greenery, more nature nearby, and more space, tranquility and privacy.

This latter reason does, however, coincide with the *wish* of working from home. Because besides being an *enabler,* people might also *prefer* working from home, which is, as mentioned in paragraph 10.5, the case for 41.9% of the total respondent group (n=1458). Since, as mentioned in paragraph 13.4, working from home then again further strengthens the wish for having a spacious enough dwelling with enough rooms, and enough outdoor space, the circle is round.

In conclusion, since working from home enabled moving further away from the workplace, multiple push factors are concurrently strengthening the trend of moving further away. Whether Corona is the cause for the willingness to move further away, or whether the financial incentive is the cause as such differs among the respondents, but the result is equal. This is also visible in the survey data, which shows similar trends in the changed preferred moving distance between the respondents who stated Corona caused their change, and the respondents who stated Corona did not.

Lastly, it is worth mentioning that the number of people whose moving distance changed *not* due to Corona is relatively high, namely 8.0%. This is explainable since reasons mentioned among this group are all financial in nature (concerning the housing market). Since this has impacted preferences greatly, as is visible in the amount of change in the targeted price range, this explains why this number is so high here as well.

The observed trend of moving further away is confirmed by the Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A. (2021) who perceived regional differences in the development of housing prices in the past year. They state that "compared to the last quarter of 2020, it is striking that in a large part of the Northern Netherlands, average sales prices have risen sharply,

sometimes by more than 20%, for example in the regions of Opsterland and Southwest Drenthe." (p. 2). They conclude that this reflects the trend of "the increasing interest in rural areas and [that] it shows that there is more mobility in the total housing market." (p. 2). Nevertheless, as mentioned in chapter eight, the trends of moving towards the rural areas is not a new one but has been observed already in the past five years. The survey data thus corroborates this trend, and the data of the NVM U.A. shows that in the past year this trend has been increasing and accelerating. As can be concluded from the survey data as presented in paragraph 10.3.1, for all people whose preferred moving distance changed, this change is caused by Corona for one out of three (32.2%) and the changed has been caused by other reasons, mainly of financial nature (macro level) for two out of three (67.8%).

Moving destination | leaving the province or the Randstad

As mentioned, people whose preferred moving distance has changed indicated currently considering a different municipality within their current province or considering moving to another province. As paragraph 9.2.2 showed, the provinces considered are most often are Gelderland (46.3%), Utrecht (44.0%), North-Holland (31.9%) and South-Holland (30.5%). Since three out of four of these most considered destinations of moving belong to the Randstad, this does not indicate a trend away from it. However, these ratios encompass the total of provinces considered, regardless of the current place of residence of the respondents who selected them.

As paragraph 9.2.3 showed, while half of the respondents who consider moving to another province and who currently live *outside* of the Randstad consider staying there, only a third of the respondents who consider moving to another province and who currently live *in* the Randstad considers staying. This, in fact, does indicate a predilection for moving away from the Randstad. Chapter eight showed that there is an ongoing trend of people leaving the Randstad in favor of Gelderland, Drenthe and Limburg, and that this concerns mainly multi person without children and over thirty years old.

An analysis of the preferred moving destinations of the respondents who currently live in the Randstad *and* want to move outside of it (n=59, see table 9.2 in chapter nine), shows the respondents favor Gelderland (67.7%), Overijssel (46.8%), Drenthe and Noord-Brabant (both 24.2%). This encompasses thus different provinces as the previous trend showed. However, further analysis shows that of these respondents 94.9% is over thirty years old, and that three out of five (58.6%) are multi person households without children. As such, this is in line with the previous trend. It is thus likely that the previous trend of people moving out of the Randstad has continued, even though the destination of their moves might have changed.

City size and neighborhood

As explained, respondents wish to live in smaller cities than before. The changed wish for a city size and certain neighborhood is related to the changed preferred moving destination. This is evident from the reasons mentioned for the changes which are similar or both attributes. Similar to the willingness to move further away, respondents mention working from home and financial reasons in their explanations for changing the preferred city size. This makes sense, since smaller cities are situated in less urban regions, which is further away from the current places of residence of the respondent group, who currently often live in (highly) urban areas (64.9%).

In line with this, reasons often mentioned for the changed preferred neighborhood, which are more quiet residential areas and less inner cities, are the wish for more privacy (less densely populated) and tranquility and wanting space and nature. The latter two are perceived as means to acquire the first two. Privacy and tranquility are preferred for enjoyment, since Corona changed their perspective, or for feeling safer. A respondent explained that "Living and housing have taken on a different dimension now that rural areas offer a better chance of not becoming infected due to the much less crowded environment.". This respondent might voice a sentiment which could gain in popularity in the years to come. Reason for expecting this, is that this is not a new opinion, but one that has been coming and going for decades. For

example, people moved out of the cities in the middle ages when the plague hit (Trappenburg, 2020, p. 6). Furthermore, in Belgium in the 19th century during the industrialization, the problem of housing shortage and the fear of diseased breaking out in the densely populated inner city incited the government to promote homeownership in rural areas (Coppens, 2020). Coppens (2020) further explains this was done by promoting farmhouses and providing extremely cheap public transportation from and to these rural living environments to facilitate working in the city, since the link between the home and the workplace had not been severed yet. However, as Chief Government Architect Floris Alkemade explains: "Throughout history, these have always been wave movements" (Trappenburg, 2020, p. 6). After the plague resolved, people moved back to the city. He thus does not "expect this to be the end of urban living" (Trappenburg, 2020, p. 6). However, the voiced sentiment and possibly following trend is one to bear in mind.

14.5 The difference in change of expressed stated housing preferences between various subgroups

As explained in chapter eleven, the Corona crisis affected the preferences of multi person households with children, and the preferences of single person households more than those of the multi person households without children. Additionally, preferences of households in highly urban areas are more often affected by the Corona crisis than households in hardly to not urban areas. The previous paragraph already touched upon some aspects of the varying change within the subgroups. However, the previously ongoing trends are discussed in the next paragraphs.

One finding which stands out is that reasons for moving have changed because of Corona twice more often for multi person households with children than for the other household types, as is visible in table 11.1 from paragraph 11.1.1, as repeated below. This differs among respondents whose reasons for moving changed *not* due to the crisis: here, reasons were more often changed among single person households, and multi person households with children. That the reasons for moving changed much more often for multi person households with children due to Corona is related to these households significantly more often changing their preferred dwelling type and changing their preferred price range. Reasons relate to working from home (mentioned by 65%) combined with homeschooling, which, as has been made clear by the media, has been regarded as challenging. As a respondent elucidates: "*Working from home in combination with taking care of a child at home is very difficult.*".

		Moving reasons			
Household type		*The reason stayed the same*	*The reason has changed since the Corona crisis, but not because of the Corona crisis*	*The reason changed because of the Corona crisis*	***Total***
Single-person household	Count	200	37	5	242
	%	82,6%	15,30%	2,10%	100%
Multi-person household without children	Count	659	60	20	739
	%	89,2%	8,10%	2,70%	100,0%
Multi-person household with children	Count	291	46	18	355
	%	82,0%	13,0%	5,10%	100,0%
Total	Count	1150	143	43	1336
	%	86,1%	10,7%	3,2%	100,0%

Repetition of Table 11.1: The relationship between household type and whether reasons for moving changed. (n=1336, Asymptotic significance (2-sided) =0.001. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.79).

14.5.1 Ongoing trends

As mentioned in the previous paragraph, there was already a trend visible before the crisis of households, mainly multi person without children and over thirty years old, leaving the Randstad in favor of Gelderland, Drenthe and Limburg. When focusing on the component of the household composition within this trend, there are similarities between this trend and the outcome of the survey, but not significant. As discussed in paragraph 11.1.4, the survey disclosed that there is a statistically significant relation between the household composition and the changed preference for the moving distance from the current place of residence. However, this preference changed twice as many times for single person households then for multi person households (with or without children). For all discovered statistically significant relations, the multi person household without children were least impacted. As such, this research does not perceive and thus cannot confirm the trends of mainly multi person households without children moving further away. And thus, the more specific trends of this household composition leaving the Randstad cannot be confirmed either. The aspect of age within this has not been analyzed and requires further research.

Additionally, as discussed in chapter eight, a trend that was already in progress was that of households, mainly multi person with young children, leaving the highly urban areas and the big cities with little amount of living space and the lack of a garden, towards less urbanized regions and smaller cities, but staying within the current province. The data resulting from the survey seems to be in line with this reasoning but does not show a significant relation between multi person households with children and a change in moving distance preferences. Chapter eleven did discover a statistically significant relation between the household type and a change in the preferred moving distance, but this regarded to a greater extent the single person households (change for 5.7%) then the multi person households with children (3.9%). Furthermore, within this subgroup no distinction has been made between the age of the children. Additionally, a statistically significant relationship between the urbanity of a place of residence and the changed preferred moving distance does exist, but what this relation encompasses is rather unclear, as it showed that the preferred moving distance changed *more often* because of Corona for people currently living in urbanity level *three* (5.5%) and *one* (4.8%). It furthermore stands out that the ratio of people whose preferred moving distance changed, but *not* because of Corona, is highest in urbanity level one and decreases the lower the urbanity level is. This trend is not visible for the respondents for who Corona caused the changing preferences. An explanation for these results has not been determined yet, and as such further research herein is required. Additionally, in order to determine whether the previously existing trend is indeed visible among the respondent group of the survey, further analysis is required in this as well. Nevertheless, as mentioned, the reasoning i.e., the little amount of living space and the lack of a garden in highly urbanized areas, does indeed correspond with reasoning as provided by the survey respondents. The hypothesis is that further analysis will thus indeed corroborate the continuation of this ongoing trend.

14.5.2 Further research

As is clear, the focus of this research was to determine whether there is a difference in changing preferences between the various subgroups as defined for the survey. Since researching further differences per subgroup regarding characteristics and demographics was out of the scope of this thesis, comparisons between the previously ongoing trends as determined in chapter eight and the research results of the survey often cannot be made conclusively. Hence, in order to determine whether the previously ongoing trends in preferences appear among the respondent group, further research is required.

14.6 The permanence of the change

Chapter twelve discussed whether the respondents whose housing preferences changed expect that these changes are permanent or temporary. The following paragraphs discuss these results and aim to provide insight into the lasting effect of the Corona crisis on housing preferences, and as such on future demand for the housing stock.

14.6.1 Respective certitude

As discussed in chapter twelve, respondents mostly expect the changed preferences for the number of rooms, the dwelling size and the preferred outdoor space to last. Chapter eleven showed that there is a statistically significant relation between the changed number of extra rooms and the level of urbanity of the current place of residence. Namely, people in very highly urban areas changed their preferred number of rooms more than twice as often as people in the other urbanity levels. Chapter eight stated that there has been a trend going on of households, mainly multi person households with young children, leaving the highly urban areas and the big cities with little amount of living space and the lack of a garden, towards less urbanized regions and smaller cities, but staying within the current province. This seems to correspond with the findings of the survey. Since the findings of the survey thus correspond with an existing trend, the expectation of the findings being permanent is strengthened.

14.6.2 Respective uncertainty

Respondents are, of all the housing attributes, most uncertain about the permanence of the preferred price range. This is explainable by the fact that this attribute is more than the other attributes influenced by external factors such as the housing market. Since it is highly uncertain how this external factor will develop, this increases the uncertainty of preferences for this attribute in like manner. Additionally, for people whose preferred price range has changed due to Corona, financial capabilities have often been impacted by the current socio-economic circumstances. How these circumstances and hence how their financial capabilities will develop might be uncertain. Because of this, expectations concerning the other attributes are relatively more stable than expectancy concerning the preferred price range.

Table 14.1 which is a section of table 12.2 in chapter twelve, shows the expectancy rates concerning the changed preferred price range for respondents whose change was caused by the crisis, and for respondents whose change was caused by other factors. Respondents whose preferred price range was changed by other factors than Corona are significantly more often sure of staying with their new target price than respondents whose preferred price range was changed due to Corona (respectively 42.9% and 27.6%). A plausible explanation can be found in the reasons for the changed preferences for both groups. As explained in paragraph 10.2, respondents whose preferred price range changed due to Corona often mention the increasing prices and mentioned a decrease in financial possibilities due to e.g., job loss.
On the other hand, respondents whose preferred price range changed due to other reasons than Corona often mentioned, besides increasing housing prices, an *increase* in financial possibilities due to e.g., promotions or new jobs. As such, the difference in expected permanency of the changed target price between both groups is explainable: Whereas the first group has *fewer* financial possibilities and *more* uncertainty, but most certainly hopes to obtain a new job and realize an increase in their income in the near future, the second group has had an *increase* in income and hence an *increase* in certainty. This latter group is thus *more* sure of their new target price being permanent. Nevertheless, among both groups of respondents the ratio of people being unsure is much higher than average (16.3% respective to 9.3% on average, and 10.5% respective to 5.6% on average). This shows the influence of the volatile housing market making people unsure of what a reasonable and feasible target price would be in the future, or whether they could possibly lower their target price.

			"After the Corona crisis is over, do you expect your current preference to stay decisive, or do you think your former preference will gain in relevance again?"					
			Don't know	I will go fully back to my previous preference	I will go mostly back to my previous preference	I will mostly stay with my new preference	I will fully stay with my new preference	*Total*
Price range	My preference changed because of the Corona crisis	*n*	8	15	13	19	21	76
		%	10,5%	19,7%	17,1%	25,0%	27,6%	100%
	My preference changed since the Corona crisis, but not because of it	*n*	46	15	24	76	121	282
		%	16,3%	5,3%	8,5%	27,0%	42,9%	100%

Table 14.1: The expected permanency of the changed preferred price range, as shown in table 12.2 in chapter twelve.

14.6.3 Trust influencing expectancy

The expectancy concerning the permanency of the changed preferred price range can also be explained by the general trust in the owner-occupied housing market, as made insightful by the 'Eigen Huis market indicator 1st quarter 2021'. The market indicator, which shows the trust in the owner-occupied housing market in the first quarter of 2021, which is when the data was gathered through the survey, indicates that "The proportion of respondents expecting a moderate to strong increase in purchase prices has risen considerably to 56% (from 46%)" (Boumeester, 2021, p. 5). Since a considerable ratio of people expect an increase in prices, the uncertainty concerning the target price range is unsurprising. The market indicator further states that solely 14% of their respondents expect prices to remain constant or to decrease.

Additionally, the market indicator states that owner-occupiers, high-income households and middle-aged households show a slightly stronger decrease in confidence in the housing market than average (Boumeester, 2021, p. 3). Since the respondent group of this thesis encompassed solely (aspiring) owner-occupiers and relatively many high-income households and middle-aged households, the respondent group of this thesis are likely to have experienced a more than average decrease in confidence in the housing market as well. This has presumably influenced the expected permanency of the currently preferred housing prices negatively. However, overall the high-income households still have more confidence in the housing market than lower-income households have (Boumeester, 2021, pp. 3-4).

14.6.4 The expected lasting effect of the crisis on stated preferences

In general, respondents themselves expect the described changes to be rather permanent. Specifically, four out of five respondents expect to (mostly) stay with their new preferences, even after the crisis is over. What this means in practice, is that these preferences are the qualitative demand of the respondent group, and that this demand, which has changed due to the Corona crisis, is expected to stay changed for 80% on average. Since attributes which are tangible and for which the preference is more intrinsic are influenced less by external factors, and thus generally coincide with more certainty, the notion is strengthened of the change in preferences for these attributes indeed being permanent. This then further strengthened by the perceived trends in the survey coinciding with trends which were already ongoing before the crisis started. On the other hand, the attribute of the preferred price range is heavily influenced by external factors and incites much uncertainty. As mentioned, the low expectation rate voiced by the respondents is furthermore explainable by the low trust in the housing market as defined by the market indicator (Boumeester, 2021). As such, in analyzing the average expectancy for the permanency of changes in preferences, the tangible attributes should be viewed separately from the preferred price range and should thus exclude the expectancy of the latter herein. This results in an average expectancy of 84.1%. All in all, still the expectancy is that of the respondents whose preferences changed, approximately four out of five will stay with their new preference if it concerns a tangible attribute. Nevertheless, as stated before, with these findings it is important to bear in mind that these are and concern uncertainties. The results described present the expectations of the respondents concerning future wants and needs, in a future environment and market.

14.7 Reflection on results

14.7.1 The starting point speculations

This thesis started from the notion that the Corona pandemic had incited change in socio economic circumstances which resulted in the Corona crisis. The way people live and work were expected to have all changed, and this was expected to have impacted housing preferences. Newspapers speculated widely about what the change would encompass. In retrospect, the newspapers who stated that "home seekers want to live bigger and greener than before the corona outbreak" (Hegger, 2020), and that "due to the corona crisis, more urbanites want to move to the countryside than before" (Nieuwsuur, 2020) were correct. Additionally, respondents did indeed state they "consider switching the city life for village-living" as was stated by Nieuwsuur (2020). Also correct were Leeuwen and Bourdeau-Lepage (2020, p. 1), who stated that "space, and especially urbanity, matters". This has been confirmed by the statistically significant relation between the current level of urbanity and changing housing preferences concerning the number of rooms, the price range and the moving distance form the current place of residence (chapter eleven). Leeuwen and Bourdeau-Lepage (2020, p. 3) furthermore stated that wellbeing has declined more in high density urban areas than in areas of low urbanity and that "People living in an apartment without a balcony or terrace are least happy during the crisis". While the survey did not inquire housing satisfaction, the increasing change in housing preferences the higher the level of urbanity is, as determined in chapter eleven, and the decrease in popularity of the apartment as well as of the balcony, corroborate these statements.

On the other hand, there were also sources stating that Corona did not "drive homeowners out of the city" since even though they saw is a growing wish for more space, they predicted the preference would still be to own that space within the urban area. The survey results indicated otherwise. Respondents indeed require more space within their dwelling and are willing to move further away in order to obtain this. However, as has been mentioned, one important cause for the willingness to move further away was the incentive of financially affordable dwellings, or, otherwise stated, the constraint of unaffordable dwellings within the urban areas. Indeed, part of the respondent group preferred owning a dwelling within the urban area but was constrained by financial causes. However, this concerned the minority. More commonly, respondents not only want more space *within* their dwelling, but also *surrounding* their dwelling. As such, a clear trend away from the urban areas towards to more spacious areas of lower urbanity has indeed been perceived. As such, the statement of Hesselink and van der Sluys (2020), who said that "The COVID-19 outbreak [...] [would] further strengthen the preference for lively central locations with high levels of urban amenities" has been disproved. Au contraire, most respondents indicated having discovered *not* missing the amenities in the past year. Nevertheless, the wish for living closer to amenities has been mentioned among the respondents, however infrequent. The hypothesis is that this encompasses mainly young, single person households. Further research into this is required to ascertain this.

14.7.2 Expected impact of the crisis

The thesis researched what the impact was of the Corona crisis on housing preferences. It did so by inquiring directly among the target group whether their housing preferences changed because of the crisis, and if so, why. The thesis thus researched change bottom-up. However, in order to know what questions to ask, firstly part I of this thesis researched the crisis and its components which were expected to incite change. Combining this understanding with knowledge about housing preference theory, resulted in a hypothesis of which housing attributes would be impacted by the crisis, as was discussed in paragraph 4.3.2, and was visualized in image 4.4. This determined what questions to ask. As such, the survey was designed top-down.

Reflecting back on these attributes which were expected to have been impacted by the crisis, it can be concluded that for the most part, the hypotheses were correct. Image 4.4, which shows the hypothesized relations, is repeated below this paragraph.

For example, the working from home did indeed create the need for a focus space and impacted preferences for dwelling attributes. The impact, however, on the social environment was expected to be more prominent, since newspaper article did voice an increase in neighborly quarrels. Even though this has been mentioned among the respondents, the number of times this was the case can be regarded as insignificant. In like manner, an increase in neighborliness has not been mentioned by the respondents. However, this might also be the case because an increase in neighborliness might be perceived as a good thing, and thus might not cause people wanting to move. As such, it is explainable that this effect did not show in the survey.

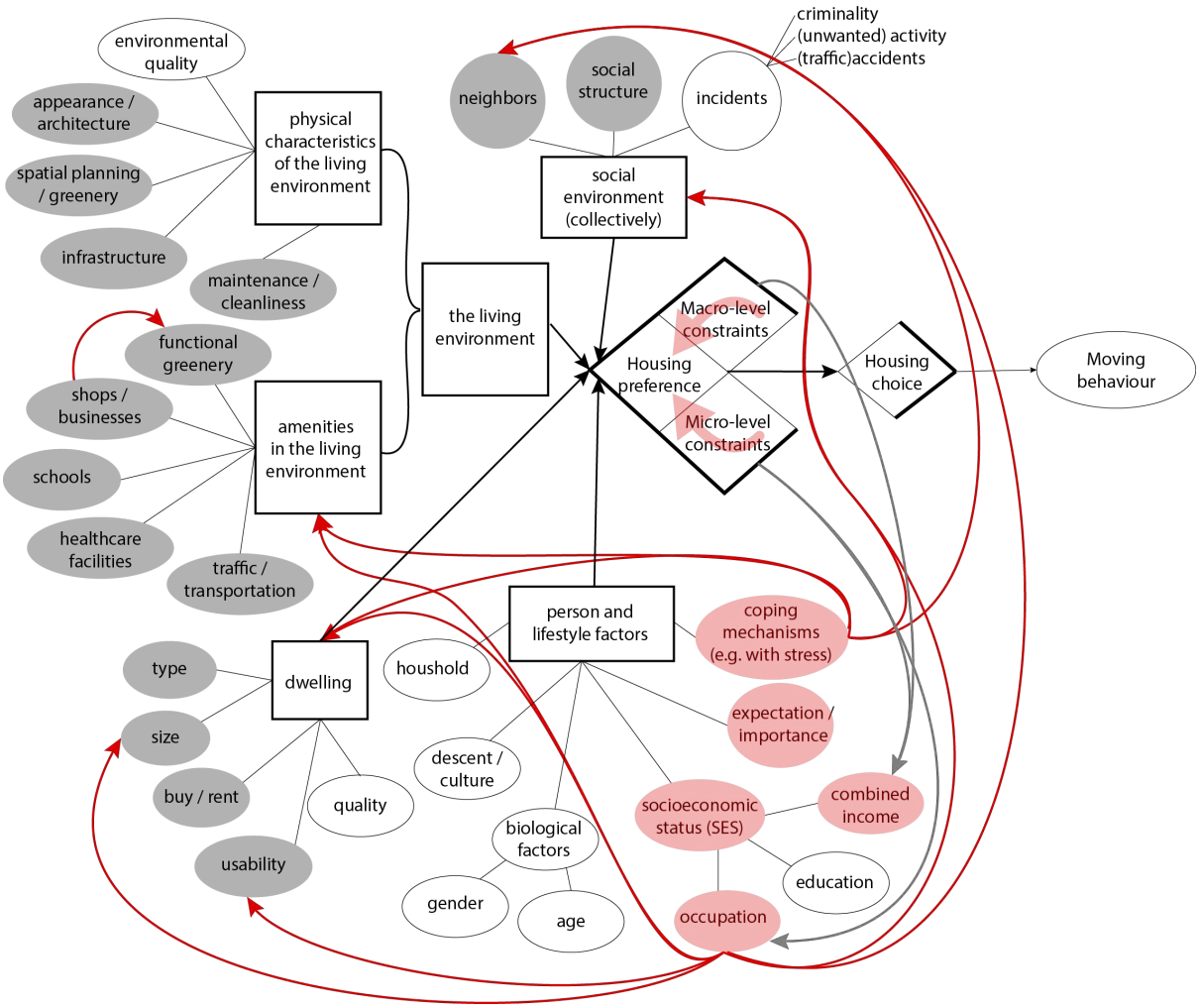
Furthermore, the literature created an image of many mental health problems and prospected burnouts causing the need for different types of dwelling and living environment, ones that provides tranquility and privacy. Additionally, since nature and greenery are expected to help in the case of mental health problems, an increase in the preference for those amenities in relation to pre-crisis levels was expected. Even though the survey did discover the above-mentioned changes in preferences, the mental health problems or burnouts were *not* mentioned as causes by the respondents. Whether this is because indeed auxiliary reasons were the cause here, or because of there still being a taboo on speaking about these types of problems, remains unknown.
The increase in the use of greenery and nature was predicted to be mostly temporary, since the major cause for the increased use was it functioning as replacement for other amenities which were closed due to the lockdown. However, it was expected that the use would stay permanently increased relative to pre-crisis levels, because of the mentioned increase in mental health problems, which is a chronic, long-term problem, *and* since people might have discovered new lifestyles they will continue living. This latter reason has been mentioned multiple times by respondents and has thus indeed been confirmed.

The literature also presumed that the shrinkage in employment and in GDP would cause the combined income of households, and as such their SES, to decrease. Consequently, housing possibilities would decrease as well. The survey showed that this has indeed been the cause for a significant number of respondents. While a decrease in possibilities due to an overall decreased GDP is hard to point out, the shrinkage in possibilities due to job loss has been mentioned frequently.

On the other hand, there was also the expectation of *increased* combined income causing increased housing possibilities, due to people working in sectors profiting from the crisis. As mentioned in paragraph 14.4.2, even though these respondents do not appoint Corona the cause for their increased possibilities, this effect has been perceived clearly, and very often.

Lastly it was stated that that all attribute bundles were affected except for the physical characteristics of the living environment. These ‘diffuse’ attributes seemed to not have been impacted much by the Corona crisis. This hypothesis was very wrong. Respondents mentioned often the preference for living in a certain type of environment, and described often the physical characteristics (e.g., green, spacious). This differs from respondents requiring functional green such as parks nearby. As such, this ‘diffuse’ attribute bundle has indeed been impacted by the crisis, even though this was not foreseen.

All in all, the common thread through most changes in housing preferences due to the crisis is the working from home. Whether this is a cause for changing preferences, an enabler for changing preferences, or a preference on its own, differs per respondent and sometimes per attribute.



Repetition of image 4.4: The analysis of the preference-shaping attributes which were expected to have been impacted through the socio-economic effects of the Corona crisis. The motivational factors and constraints which were expected to be affected by the Corona crisis are indicated in red, and the attributes which they were expected to impact are indicated in grey.
(Adapted from Janssen et al., 2006, p. 2)

14.8 Limitations and opportunities for further research

14.8.1 Limitations of the research

Researching *expressed* stated preferences

Since the effects of Corona on housing preferences were researched by means of a survey which measured peoples *expressed* stated preferences, i.e., the preferences people voice are theirs, the research stayed limited to this. Some models to research housing preferences, like the *revealed models*, assume "it is only in the act of choice that people can reveal their preferences" (Orzechowski, 2004, p. 9). When adhering to this view, the real preference people have might be different from the one they express. People might not always know very well what they truly want or might find it difficult to put it into words. Additionally, as will be explained in the next paragraph, there is large discrepancy in the Netherlands between people's expressed preferences and their revealed preferences. However, as the occurrence of the Corona crisis is too recent to research actual choices, the research is indeed on stated *expressed* preferences. This posed as a limitation that was not surmountable at this time.

In addition to this, Coulter and Scott (2015, p. 356) also warn for a research limitation of researching self-reported reasons. They state that "social and psychological theories suggest that self-reported reasons for moving should be interpreted with some caution" and that "retrospective explanations of behaviour provide only a partial representation of cognitive processes " (Schwarz, 2012, as mentioned by Coulter & Scott, 2015, p. 356). This means that the survey data asking about current housing preferences is more reliable than the survey data asking about housing preferences retrospect (from before Corona). This has, as explained, been taken into account in the design of the questionnaire and needed to be taken into account when interpreting the data.

However, Coulter and Scott (2015, p. 356) also add that it is valuable to investigate not only the revealed preferences, but "to also investigate the motives people cite when they are *deliberating* residential mobility". In other words, it is valuable to investigate the current *expressed* housing preferences of people who are inclined to move first, which is exactly what this thesis did, after which the revealed preferences of the respondent group could be researched succeeding. A valuable opportunity for further research is thus to track the moving decisions in order to investigate the revealed preferences of the researched respondent group in two years' time. This timespan would suffice, since all useable respondents of this research have indicated wanting to 'definitely' or 'maybe, probably' move within timespan.

The discrepancy between stated and revealed preferences

In the Netherlands, "there is a major discrepancy between the *housing preferences expressed* by people and their *actual moving behavior*" (Manting et al., 2008, p. 12). As such, "housing preference research provide [...] only limited insight into people's future moving behavior" (Manting et al., 2008, p. 16) The discrepancy between stated and revealed preferences shows that stated preferences are never really a certainty since most people who express an inclination to move do not succeed to move within the desired two years timespan. This means that even if 100% of the respondents expect to fully stay with their new preferences, the discovered stated preferences of most of the respondents would still often not become revealed. However, the transition of stated preferences becoming revealed is out of the cope of this thesis. Nevertheless, this does provide an interesting opportunity for further research.

Researching *abstract* aspects within the stated preferences

As explained in paragraph 1.3, the focus of this study is on the functional aspects within the stated preferences. As such, the abstract aspects are not researched. Nonetheless, research into the abstract aspects could be of great value. Most research into housing preferences focusses on either revealed or expressed preferences and focusses on tangible aspects herein. As such, research into the abstract aspects

of housing preferences has not been conducted much and the abstract aspects are thus relatively unknown Moreover, since abstract aspects do influence housing preferences, they could be a confounding factor in this study. Further research into the abstract aspects could thus be of great added value.

Researching the motivation for housing preferences

In the adapted the model of Janssen et al. (2006) in chapter four, various motivation factors were added. In retrospect, the factor 'health' should have been added to the biological factors in the model as a determinant of preferences (motivational factors and constraints). This should have been done, since as (Baker, 2014) states, the "Socioeconomic status (SES) is defined as a measure of one's combined economic and social status and *tends to be positively associated with better health*.". As such, health exerts influence. Furthermore, Janssen et al. (2006, p. 2) elucidate concerning their model, that "for certain subgroups some aspects may weigh more heavily". While having children might increase the preference for having schools and playgrounds in the neighborhood, poor health may increase the value of clean air, or tranquility (rural living). This motivation factor thus should have been added to the analysis, as is illustrated in image 14.2.

Personality traits as a confounding factor

When researching where in society, i.e., among which groups of people, change is possibly located, personality traits could be a confounding factor. Aschwanden et al. (2020, p. 1) discovered there is a relationship "between personality traits and psychological and behavioral responses to the [Corona crisis]". Götz, Gvirtz, Galinsky, and Jachimowicz (2020) likewise concluded in a study towards personality and responses towards the pandemic that personality traits determine behavior. The suspicion arises that personality might be a confounding factor in changing housing preferences due to the Corona crisis.

Both the studies of Aschwanden et al. (2020) and Götz et al. (2020) utilized the Big Five personality tests to evaluate personality traits. As Gosling, Rentfrow, and Swann Jr (2003, p. 506) explain "The Big-Five framework is a hierarchical model of personality traits with five broad factors, which represent personality at the broadest level of abstraction". They further elucidate that these five factors are continuums between two bipolar traits which embody "most individual differences in human personality" (p. 506). The factors are Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience (Gosling et al., 2003).

Both studies found that of the five personality traits, 'extraversion' solely responded negatively towards necessary pandemic measures. People exhibiting this trait usually spent much time outdoors engaging in social activities and are now confined to their homes. Introverts, in contrast, generally appreciate spending time at home and will not experience this as restricting. Aschwanden et al. (2020, p. 1) furthermore discovered that lower emotional stability is "related to more concerns and longer duration estimates related to COVID-19, [while] higher extraversion was related to shorter duration estimates". Additionally, they uncovered a relationship between higher conscientiousness and taking greater precautions.

In the case of housing, the personality traits might influence aspects of the 'person and lifestyle factors' which are intrinsic to the motivation factors for preferring certain housing attributes, as explained in paragraph 4.1.4, and as is shown in image 14.2. As such, there is a possibility that longer duration estimates of the crisis influence housing preferences differently than shorter duration estimates. Likewise, people taking greater precautions might showcase different change in housing preferences than people who do not. Moreover, introverts might experience the pandemic very differently from extroverts, which might correspondingly influence their housing preferences very differently as well. In other words, the various personality traits people display might influence the change in housing preferences they experience.

The survey of this thesis included a big five personality trait questionnaire. The one used is the TIPI (Ten-Item Personality Inventory), which is a 10-item assessment of the Big Five factors. The TIPI has been developed for cases where "short measures are needed, personality is not the primary topic of interest, or

researchers can tolerate the somewhat diminished psychometric properties associated with very brief measures" (Gosling et al., 2003). The TIPI was selected as it is extensively used and is as such validated.

Analyzing the TIPI data could possibly offer a resolution on whether personality traits are indeed confounding the results. Distribution of the personality traits in the various groups of owner-occupiers included in this thesis could offer insight into this. Because if a certain group of owner-occupiers displays a significant number of a certain personality trait, this could mean the relationship between change in housing preferences and the groups of owner-occupiers might be implicated. Since data has been gathered on personality traits of the respondent group by means of the TIPI, herein lies an interesting opportunity for further research. Statistical analysis could determine whether there is indeed a relationship between the personality traits and change in housing preferences.

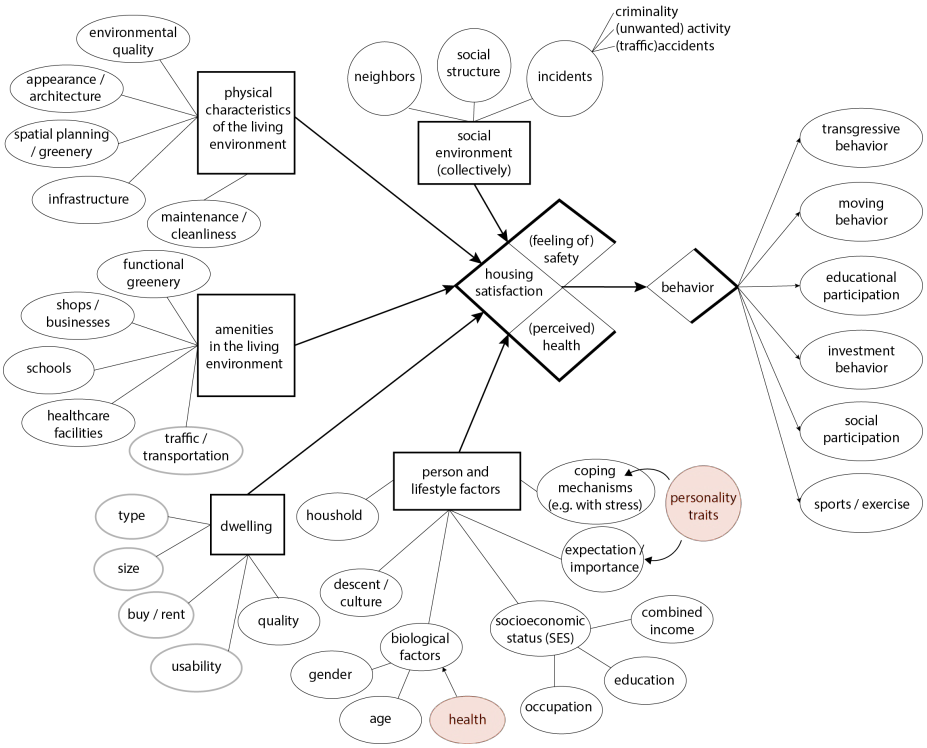


Image 14.2. Possible influence of personality traits and the associated responses to the Corona crisis, on housing preferences. (Adapted from Janssen et al., 2006, p. 2)

14.8.2 Limitations of the respondent group

Predisposition for newly built

As explained in paragraph 6.1, respondents were gathered through the database of NieuwbouwNL their newsletter subscribers. As such, respondents have shown an interest in newly built dwellings through their newsletter subscription. In order to discerns in how far respondents are oriented towards the newly built owner-occupied housing market, respondents have been asked in the questionnaire whether they are in search of a newly built dwelling or an existing dwelling. The data shows that more than half of the respondents (56.7%, n=810) do not have a preference for either one as they stated 'it does not matter' whether their new dwelling is newly built or existing supply. Four out of ten respondents (38.1%, n=544) state being in search of a newly built dwelling. The minority (5.2%, n=74) state being in search of a pre-existing dwelling. It can thus be concluded that the respondent group is indeed oriented towards the newly built housing market. This needs to be taken into account in the interpretation of the conclusions.

Representativeness of the respondent group

Paragraph 6.2.1. analyzed whether the conclusions can be generalized to the general Dutch population, and concluded that the target group, i.e., people with an inclination to move and who (aspire to) participate in the Dutch owner-occupied housing market, differentiate from the average Dutch population with regard to the household composition and the level of urbanity of the place of residence. However, it is doubtful whether generalization to the whole Dutch population would have been possible in the first place, since the target groups were (aspiring) owner occupiers with an inclination to move and are a different group with different characteristics then the general population of the Netherlands. The better comparison would thus have been to match the target rates of the subgroups to the number of (aspiring) owner occupiers with an inclination to move in the Netherlands, not to the Dutch population in general.

Furthermore, as explained in paragraph 6.1.1, the parameters of the approached population are unknown. Paragraph 6.1.3. explained that as a response to the unknown population parameters, respondents were filtered through built-in checks in the questionnaire, which allowed to determine whether respondents complied to the set conditions. As such, not knowing the population parameters was overcome by making a strict selection what resulted in a firmly defined group of respondents with distinct characteristics. Because of this the results of the research relate to the demarcated group. Since the received sample is substantially large enough, conclusions can be extrapolated to the bigger group with similar set of characteristics, that is, people with an inclination to move and who (aspire to) participate in the Dutch owner-occupied housing market, *and* who, as explained in the previous paragraph, are interested in the newly built housing market.

Excluding part of the population

By excluding people participating in the rental market, 43% of households in the Netherlands were excluded. Since the group of people renting or owning differs amongst others in terms of highest obtained education level and financial means, this research discriminates towards a certain group of people. However, as explained in paragraph 1.2, people in the rental market often do not have sufficient freedom of choice, and thus measuring *stated* housing preferences would not have provided correct results. Hence, an interesting option for further research would be to research housing preferences with a focus on more on *ideal* preferences, so that both owner-occupiers as well as renters could be included in it.

14.8.3 Hidden effect of Corona

Through comparing the trends in changes and reasons provided by the respondents who indicated Corona caused their changed preferences, and the respondents who stated that Corona was *not* the cause, it can be deducted whether respondents are able to differentiate what the cause for their changing preference is. In other words, in how far are the respondents able to identify Corona as the cause for their preference-change? And in how far did Corona possibly have a bigger effect than this research uncovered?

Differentiating between causes

Literature differentiated between targeted reasons and diffuse reasons for moving, as has been explained in chapter 4.2.1 (Coulter & Scott, 2015). Likewise, the reasons people expressed for their changed housing preferences can be classified as either targeted or diffuse. Targeted reasons in this context encompass the life course events and relate to 'focused motivations' such as employment (Coulter & Scott, 2015). Diffuse reasons encompass "consumption-oriented preferences e.g. regarding dwelling or neighbourhood characteristics" (Coulter & Scott, 2015, p. 357).

It appears that in general, people are quite able to differentiate between whether Corona or other factors are the cause for their changed preference if it concerns *targeted* factors. For example, the respondents who want a different number of extra rooms in the house due to Corona often indicate the need for a workplace consequential of working from home is the cause for this, whereas respondents who want an extra room due to other reasons often name a changing household composition as the cause. While the

first is related to the focused motivation of employment and is indeed impacted by Corona, the latter is directly related to the targeted reason of a life-course event. This is in line with the literature concerning housing preference theory as elucidated in paragraph 4.2.1, which explains that life course events are, ordinarily, the cause for changing housing preferences. Accordingly, this is thus indeed a reason which is distinct from the Corona crisis. Furthermore, this confirms that, as stated in paragraph 14.1.1, respondents are in general able to differentiate between Corona causing their changed housing preferences and life-course events causing this.

On the other hand, people seem to have more trouble differentiating between whether or not Corona is the cause for a changed preference if this concerns *diffuse* reasons concerning neighborhood characteristics, wanting tranquility, and preferring more space and privacy. This is visible in for example people their explanations for changed moving reasons. Respondents who state that Corona caused their change in reasons for moving *and* respondents who state that the reasons for moving changed *not* due to Corona, *both* mention often wanting to live closer to nature in their explanations. Specifically, having a newfound appreciation for being outside in nature due to having spent so much time outside the past year, is mentioned by both groups. It is speculated that for both groups, the Corona crisis caused the increase in time spent outdoors, and thus caused the newfound appreciation, even though respondents do not always recognize this. Additionally, explanations concerning the changed preference for having certain amenities at walking distance of both groups of respondents (change due to and change *not* due to Corona) show overlapping reasons. As mentioned in paragraph 10.3.4, respondents of *both* groups often mention the need for being outside, the need for nature and the need for taking walks. Furthermore, *both* groups of respondents mention that due to the working from home, division of time is more flexible, and this provides them freedom for other activities, which created "the need to fill in time more independently, with own activities". Lastly, people from *both* groups seem to be thinking more consciously about the future since Corona. These reasons for the changed preference concerning amenities nearby are all diffuse, which affirms that respondents have more difficulty identifying the part Corona played within this if the reasons are more diffuse. This might have resulted in hidden effects, i.e., changes caused by Corona which have not been identified in this research.

The analyses of the qualitative data per attribute showed that this has indeed been the case. Even though for most of the attributes, save for the amenities and general reasons for moving, respondents were quite able to differentiate between the cause for the change in preferences as reasons were often relatively targeted, there were always some respondents who were not able to correctly identify Corona as the cause. Namely, for most attributes reasons which were connected to the Corona were mentioned in the explanations of respondents who stated that their preferences changed, but *not* due to the crisis. It is thus debatable whether these respondents were able to make the correct distinction, and it is likely this caused some hidden effect.

The impact of Corona on motivation factors of the total sample

Whether people were able to differentiate between Corona being the cause and it being not is also deducible from the motivation factors. These factors, as shown in table 10.28 in paragraph 10.5, show that of the complete respondent group (n=1458), 41.9% state wanting to work from home more often due to Corona, and 25.1% state finding it less of a problem to live further away from their workplace. Furthermore, 50.8% state that due to Corona they want to visit nature more often, and 30.9% wants to live in an environment with more greenery. According to these results, a significant part of the respondent group has thus been affected by the Corona crisis. Even though that this does not mean that these motivation factors exert enough influence on each of the respondents to have an effect on their housing preferences, it does suggest that a higher percentage of the respondent group has been impacted by Corona than the results of the research currently show. Further research is thus required to conclude whether people can actually differentiate between the cause for their preference changes. Additionally, there is a possibility that the effect of Corona is thus bigger than currently discovered as people have difficulty in identifying Corona as the cause.

Other influences concealing the effect of Corona

As mentioned in paragraph 14.1.5, there is a difference in the reasoning of respondents stating that Corona caused their changed preference and respondents who state that Corona was *not* the cause. While the first group mainly mentions reasons pertaining to the changed preference itself, the latter group more often mention constraints in their explanations for the changed preference. As explained, a possible explanation for this could be that the housing possibilities of both groups differ, or/and that the second group takes their (constraining) financial possibilities to a greater extent into account since the survey asked for their *stated* preference i.e., the house which they are searching for and which they can possibly afford. Since the housing market is so extremely constraining at this time, as explained in paragraph 4.1.4, this might have influenced the stated preferences more than should be. As a consequence, these respondents thus provide a heavily constrained stated preference (as explained in paragraph 14.1.5, image 14.1) in which their changed preferences due to Corona might not have had a chance to appear through the survey. This would mean that actual change due to Corona in housing preferences, separate from the effect of housing prices, might be higher than this research exposed. Further research into more 'ideal' housing preferences might overcome this limitation.

Conclusion: validity of the results

In conclusion, people are generally better at identifying Corona as the cause if it concerns targeted reasons. Diffuse reasons cause difficulty herein and this thus might have resulted in the research not exposing all effects caused by the Corona crisis. However, in general people were quite able to differentiate between Corona and other causes as reasons mentioned were more often relatively targeted than diffuse. In other words, the majority of the respondents has succeeded in differentiating Corona from other factors causing change in housing preferences. But part of the respondent group did not succeed in making the distinction. Herein lie hidden effects of Corona. Additionally, the large number of respondents who indicated being impacted by the Corona crisis in their motivation factors likewise suggests that the effect of Corona is bigger than the survey exposed. Lastly, among the respondents whose stated preferences were constrained for example financially, the effect of Corona did not have the opportunity to exert influence. The effect of Corona on the preferences of these respondents is thus hidden in this research. All in all, the true effect of Corona might be higher than this research exposed. In order to ascertain this, further research is required to conclude whether people can actually differentiate between the cause for their preference changes and to conclude what the true effect of Corona on housing preferences thus has been, and further research into more 'ideal' housing preferences is required to expose the hidden effect of Corona on financially constrained housing preferences.

14.8.4 Limitations of the survey

Limitations of the survey tool

As discussed in paragraph, the tool to execute the survey was an online questionnaire. It needs to be into account that "some groups, namely those with the least power in society, have limited access to computers" (Sax et al., 2003, p. 413). Since, as explained in paragraph 7.1.3, the target group consists of (aspiring) owner-occupiers, which are people who are on average more often highly educated than people participating in the rental housing market, the limitation of respondents not having access to computers is likely rather insignificant (StatLine publicaties, 2021a). However, as the effect of it is unknown, it is still a limitation that needs to be taken into account.

Limitations of the questionnaire

In determining whether people have a realistic image of their financial capabilities, the assumption has been made, as stated in paragraph 9.1.4, that financial *capability* is similar to the *willingness to pay*. As such, the survey questions were based on the hypothesis of that people are utility maximizers, in attributes and thus as well in money. The assumption was that people will always want the bigger house, and they are constraint by their financial possibilities. In other words, their financial capabilities were similar to their

willingness to pay. However, this hypothesis was incorrect, seeing as a significant number of respondents indicated preferring a dwelling in a *lower* price range, i.e., their willingness to pay was lower than their capabilities. Reasons encompassed not wanting high monthly housing costs or wanting to allocate funds from the dwelling to their retirement fund.

As such, the survey questions appeared to be biased. This was discovered by analyzing the open-ended answer categories 'other, namely…' which respondents often could choose. Nevertheless, the number of respondents whose capabilities were unequal to their willingness to pay was rather low. An explanation for this is that this ratio correlated with freedom of choice in the housing market, which is extremely limited at this time, as discussed in paragraph 4.1.4 and 14.4.2. Still, in retrospect this assumption could have been made with more nuance so that respondents were not influenced nor directed in their answers concerning the (determining of) the preferred price range of the new dwelling.

14.9 Auxiliary opportunities for further research

Comparing the no-change group

It might offer valuable insight to compare the preferences of people whose preferences changed, with the preferences of the respondents whose preferences did *not* change. Currently, solely an overview of the general preferences of the total respondent group has been presented in chapter nine. In this, the preferences of both the people whose preferences changed *and* the people whose preferences changed are included. A fair comparison between the changed preferences with a control group might offer more insight into the differences between the two.

Furthermore, in order to research whether there is a relation between certain characteristics (i.e., demographics, current housing situation) and changing housing preferences, a comparison should also be made between the characteristics and current living situation of the respondents whose preferences have changed due to Corona, and the respondents whose preferences have not changed. As such, it can be determined if there are significant differences between the two groups, which could be cause for difference in preferences and change herein.

Reflecting on the baseline measurement

Lastly, it might offer valuable insight to analyse the current housing situation and demographics of the respondents whose preferences have indeed changed due to the Corona crisis. Researching for example the household compositions, the level of urbanity of the current place of residence, the age (life-cycle events) and the level of education (related to working from home) might reveal further causes for the perceived change.

15. Conclusion

As Nanda, Thanos, Valtonen, Xu, and Zandieh (2021, p. 1) state, "The COVID-19 pandemic has made 'home' an absolute focal point of our lives." As such, this thesis researched whether and how housing preferences have changed due to the Corona crisis. The results of this study pertain to people with an inclination to move and who (aspire to) participate in the Dutch owner-occupied housing market. This is a specific group of players within the Dutch housing market, but it is one who has a relatively high freedom of choice in relation to others. A limitation in the dataset is the predisposed interest in the newly built housing market.

The research showed that housing preferences have indeed changed: for 17.8% of the (aspiring) Dutch owner-occupiers their housing preferences changed for one or more housing attributes, and thus their preferred dwelling has changed. The result is that 17.8% of the respondents currently search a different dwelling because of the Corona crisis than they did before.

The reasons for the changing preferences are that the Corona crisis caused respondents to be unsatisfied with their current living environment. The crisis made respondents want to live in an environment with more tranquility, space and privacy, more greenery and made them want to live closer to nature. On the other hand, Corona made people consider living further away from their workplace. Additionally, the crisis caused more people than before to find their dwelling no longer suffices. All of the above is related to working from home, which severed the link between the home and the workplace, enabling as well as causing people to move further away, and which necessitates space in and outside the dwelling. Since working from home is a consequence of the crisis which mainly is a possibility for- and thus applies to mostly highly educated people in high-paying jobs, which were highly represented in this study, these results are explainable. Moreover, since working from home is a continuation and acceleration of a previous trend, this effect is expected to last.

In line with this, the Corona crisis caused the respondents to prefer different housing attributes. Per attribute, an average of 3.4% of the respondents changed their preference. Corona has had the biggest effect on the preferred number of rooms in a dwelling, which is, as mentioned, a requirement related to the working from home. The preferred number of rooms has changed more than the preferred size of the dwelling; The number of rooms is thus imperative. Even though the number of rooms stays imperative, mainly multi person households require more space in their dwelling due to the being home so much and to give each other space.

There was a discrepancy between respondents wanting bigger or smaller dwellings, which is related to increasing or decreasing housing possibilities due to micro and macro level influences, and which might be related to respondents expressing to a lesser or greater extent idealistic or realistic stated preferences. Additionally, It appears that due to the crisis, the willingness to pay has increased, which made people to increase their budget. What the component of Corona in causing these increased or decreased housing possibilities is requires further research.

Corona furthermore caused respondents to not prefer an apartment anymore but caused them to prefer terraced dwelling type or a (semi) detached dwelling. This corresponds to the effect the Corona crisis has on the preferred outdoor space: Because of the crisis the number of respondents who prefer a garden increased to 90.0% while it caused less respondents to consider a balcony. Mainly financial constraints make people consider other types of outdoor space than a garden. The functionality which respondents seek of their outdoor space are enabling social possibilities (now and in possible future pandemics), providing entertainment (hobbies, gardening), and supporting mental health (fresh air, sunlight) in times of being home much of the time.

The Corona crisis has had more effects on the housing preferences of multi person households with children than on other households. The crisis caused the multi person households with children to more often change their moving reasons, preferred dwelling type and the preferred price range. Since working from home combined with homeschooling children has been experienced as challenging, this is unsurprising. Nonetheless, the Corona crisis affected the preferred moving distance and the preferred neighborhood characteristics more often for single person households than for the other household types.

The crisis has had an excessive effect on households living in highly urban places. Respondents living in highly urban places more often change their preferred number of extra rooms in the dwelling then households living in the lower levels of urbanity. Likewise, Corona more often caused the preferred price to change for respondents the higher the level of urbanity of the current place of residence is. Finally, the Corona crisis caused respondents in urban places to significantly more often change their preferred moving distance.

The discussed preferences represent the changed qualitative demand of the respondent group. Since four out of five respondents expects to (mostly) stay with their new preference, even after the crisis is over, the described changes are expected to be rather permanent. This regards to a greater extent the changed preferences for the number of rooms, the dwelling size and the preferred outdoor space. Since these attributes are tangible and the preference for it is more intrinsic, these preferences are less influenced by external factors, and thus generally coincide with more certainty. Combined with these changes in preferences coinciding with trends which were already ongoing before the crisis started the expectation is that changes are indeed permanent. On the other hand, the attribute of the preferred price range is heavily influenced by external factors and incites much uncertainty. The expectation is thus that the preferred price range will change again for most respondents as the micro and macro level financial circumstances change.

However, it needs to be kept in mind that this regards expectancy of respondents and thus regard uncertainties. Additionally, there is, as mentioned, a discrepancy between stated and revealed preferences in the Netherlands, and stated preferences thus encompass uncertainty in principle. Moreover, the results need to be interpreted with caution as the data suggests a discrepancy in the level of ideality or reality which respondents have conjugated in their expressed preferences.

In general, respondents seem to have thought more consciously about their lives in the past moths. As such, permanent changes in lifestyle resulted, which strengthens the notion of the changes in preferences continuing. Being prepared for future pandemics has been mentioned throughout the survey. However, most respondents do not seem to occupy themselves with this.

All in all, people have adjusted their housing preferences due to Corona, but the effect might bigger than currently observed in this research, since identifying Corona as the cause for changing preferences seems to be difficult when the preferences concern diffuse attributes. Additionally, the currently extremely high macro level constraints constrain respondents to the point where their new preferences do not have an opportunity to manifest. As such, this research did not uncover those.

Nonetheless, the changes in housing preferences due to the Corona crisis have largely been uncovered in this thesis. As Nanda et al. (2021, p. 1) state: "we will be 'consuming' our homes much more than in pre-pandemic levels in the foreseeable future, and we will need to adapt to some significant and more enduring changes in how we use our homes and in our perceptions of living and working at home." The above presented knowledge aids in doing so.

16. Recommendations

The study aimed to reduce uncertainty concerning the housing preferences of owner occupiers so that housing providers can contribute the correct additions to the housing stock on the correct places. As has been stated, this is important because people should be able to live in the housing of their preference as this contributes to housing satisfaction which in turn contributes to the overall wellbeing of people (Jansen, 2010). Additionally, from a business perspective it is of commercial interest to sell the suitable houses to the market demand. The previous chapters discussed all results and came to a conclusion on what the effect of the Corona crisis on quality demanded is. Based hereon, this chapter provides recommendations for building companies, and in particular for Dura Vermeer, to aid in benefitting from this knowledge and to aid in contributing the correct additions to the housing stock.

16.1 The preferences changed, now supply should follow

16.1.1 Dwelling layout

A first important recommendation concerns the layout of dwelling. No result is as clear, as directed, and is expected to be as permanent as the changed preference for the number of rooms in a dwelling. Currently, the loft-style layout is still very popular. The past year has shown the impracticalities of such a plan. The fact that the number of rooms was imperative, not the size of the house in amount of space, confirms this. As such, functionality is leading. People are in search of the functionality of an extra room. They want to be able to work somewhere focused, they want a place where they can permanently station a decent work setup (i.e., desk, screen, ergonomic chair), they want to separate themselves for breathing room in case of living in a multi person households. This finding is also confirmed by Rink Drost (personal communication, June 28, 2021), who states investors have requested the functionality of an extra room as well.

Important to note is that the functionality which people describe could possibly also be gained by other solutions besides the extra room. While respondents themselves always mention an extra bedroom, the function that that space should fulfill usually concerns work and sometimes sports. As such, other architectural solutions could also be found for this. It needs to be kept in mind that housing professionals and architects and the like might design smart solutions to the missed functionality which the respondents have not thought about themselves. Options might encompass a mezzanine, an orangery, within or outside of the house, a definitively separate room, or a space which is separable when desired through sliding doors or walls. The question is whether the functionality of the extra space needs to be solely sound wise separated from the rest of the house, or whether visual separation is requested as well. Furthermore, does functionality have to be present within the walls of the own dwelling, or are shared co-working spaces within the building sufficient as well? Further research should further specify the requirements for the functionality, and design new and innovative solutions to these new requirements.

16.1.2 Sound isolation

Sound isolation is imperative, within the house as well as outside, since respondents indicated experiencing nuisance in the past year. Inside the house, the practising of many different functions at the same time, video calling, and living on each other's' lip was mentioned most frequently. Outside of the house, experiencing nuisance form the neighbours was mentioned. And the experience of nuisance in general was mentioned, since people were more home than usual and residential areas were thus generally busier. Respondents indicate requiring tranquillity, and dwellings should facilitate in this. Hence, in order to prevent these types of nuisance in future dwellings, sound isolation needs to be made a priority.

16.1.3 Location and environment

As is clear, people are willing to move further away now that the link between the home and the workplace has been severed. Furthermore, people require more tranquility, greenery, nature and space. Dwellings without an outdoor space are considered by *none* of the respondents anymore.

These preferences offer the possibility to build new residential areas further away from the big cities, where the focus is on greenery. As long as the cities are accessible for the days when people do have to go to work, moving further away is not an obstacle anymore.

In the case of building in the inner city, solutions need to be thought up which provide people with the functionality of the greenery, sunshine, tranquility, the being outside and the gardening. Similar to the layout of the dwelling, further research is needed to determine the specific requirements, and to design new ways of experiencing the outside in a densely populated area. There needs to be thought about creative architectural solutions that provide people with the desired functions of the outdoor space, even if that space is not available as preferred. An example could be a balcony which is large enough for, e.g., an urban way of gardening.

16.1.4 Pricing and location

As Nanda et al. (2021, p. 2) explain, "According to the monocentric-city model, location decisions [of households] are driven by transport costs which increase when distance from the city centre, typically where jobs are located, get longer." This explains why housing prices are higher in more highly urban areas, where employment opportunities are higher. However, now that the link between the home and the workplace has been severed, this theory no longer holds up. Additionally, the preferences of people for more space and greenery further impact this price-location ratio. Image 16.1 shows the pre-crisis bid-rent curve, and shows how the crisis has pushed the curve to a new position (the dashed line).

It is thus recommended to builders to take these shifts in pricing into account in their next developments. "[Prices] will decrease more significantly closer to the city centre, as reflected by the slope" (Nanda et al., 2021, p. 2). Nanda et al. furthermore warn for 'difficult investment potential in the short run' for developments in the highly urban centers.

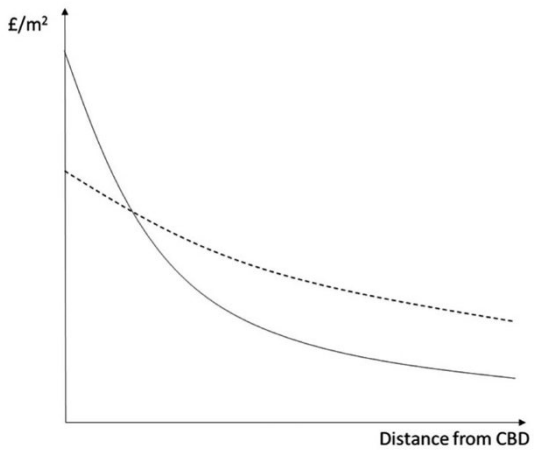


Image 16.1: Bid rent curves before (solid line) and after (broken line) the Corona crisis. (Nanda et al., 2021, p. 2)

16.2 The preferences might change again, supply should adapt in advance

As mentioned in chapter one, reducing uncertainty concerning changing housing preferences in the occurrence of changed socio-economic circumstances is of importance for events like the current Covid-19 pandemic are prognosed to happen more often in the future. While, as mentioned, being prepared for future pandemics has been mentioned by respondents throughout the survey, most respondents do not seem to occupy themselves with this. As such, it is all the more important that developers, forward-looking for the consumer, *do* occupy themselves with this.

Respondents who thought about future pandemics mention among others not wanting to share corridor or elevators anymore. Rural living is associated with less contamination risks. And the garden is seen as a means to maintain mental health and for maintaining the possibility of social activities. These respondents view a workplace *within* the dwelling as a necessity, for effectuating the continuation of work in future lockdowns. Other aspects of the dwelling where developers should focus on are the "integration of the building hygiene and wellbeing" since "The consequences of the pandemic, and the imminent risk of its repetition, highlight the need to apply a new concept of health, in terms of indoor wellbeing, […]" (Daniela et al., 2020, pp. 1-2). As such, these things should all be taken into account in designing new dwellings.

Hence, developers need to think about these things and more, things ordinary consumers have not thought up themselves yet, but which housing professionals can think about in advance, as such realizing the competitive advantage.

Part V
Reflection

The following chapter contains a personal reflection on this thesis, as a conclusion to the process of writing it.

17. Reflection

This chapter is the last chapter of my graduation thesis. I wrote this thesis in ten months. Starting September 2020, when the first idea of researching changing housing preferences as a result of the Corona crisis took root, up to the finishing of it ten months later at the beginning of July 2021.

This past year has been a rollercoaster. As I mentioned already in the preface of this document, writing this thesis during the pandemic resulted in – of course – interesting research opportunities as it provided me my subject. But it also resulted in a very challenging situation. Graduating is an individualistic process. So, graduating at a time when all social activities ceased, this process became rather lonely. Since the crisis was already in progress for a few months when I started this process, I expected as much. This is one of the reasons why I thought it so important to find a company to graduate at. In my opinion, this could offer me structure and guidance, and would offer me opportunities of gathering and sharing knowledge and ideas, which would otherwise have been impossible in the situation as it was. This turned out to be an amazing and pivotal decision for my thesis. Dura Vermeer had indeed offered me all of the above, and through the opportunity of reaching a much bigger target group than I would have ever been able to gather myself, the research became of actual value.

Little did I know about how to conduct a research, and structuring information has not always been my strongest point. Additionally, my enthusiasm (and perfectionism) often urged me to widen my scope and to include more and more information. Picking a research topic that is influenced by so many aspects has not made this easier for me. This is something that has been my stumbling block throughout the process, and which is apparent when holding my final work in your hands. Yes, it's a lot. However, I do, in retrospect, believe that the final work is quite well demarcated, and that the size of this final thesis is also something that's a bit unsurmountable with such a topic. Researching preferences also required the summation of much data, which I do believe is essential for a complete final picture.

A learning point during this thesis has been asking for help. During this thesis, I found it hard to present or share work which was not finished yet, as I wanted to shows I could do better than that. A moment in the process where this came to the fore was after the second presentation in January. This is when I hit a roadblock. Besides this having to do with the lasting lockdown and the lack of perspective which really got to me at that point, this also had to do with the point in the process I was at. At this point, I had more or less finished the literature part and needed to translate this into a questionnaire for the fieldwork part of this research. While there were enough things that I had thought of which could become difficult in this process, making this survey was not one of them. And because it seemed as something which should be easy, I found it very difficult to ask for help. However, in retrospect, from the moment I did ask for help, the process was in motion again. Moreover, after this moment I started sharing my work more frequently, and my weekly meetings with Sylvia, my first mentor, revolved much more around content, as there was a lot to learn and to do. An important lesson has thus been one they actually teach on lower school: There are no dumb questions, and I should not be afraid to ask for help. This has been an elementary but important lesson whatsoever.

The biggest obstacle faced during this graduation project was the preparation of the data. Instead of using Qualtrics to execute the survey, the software provided by the TU Delft, I utilized Spotler. Spotler is an online commercial software package, which provides their clients with possibilities for mailings and questionnaires. Seeing as the company where I executed my research, namely Dura Vermeer, utilizes Spotler it seemed like a decent idea to use this software. Since I hadn't used either software before, Dura Vermeer preferring Spotler so that the data was accessible to them for future use was the determining factor for this decision. However, while programming the survey itself was already hazardous, and Spotler proved to be quite limited in its options for asking questions, the true problem was the gathered data itself.

It was only downloadable in one file format, which was full off random blank spaces at random places and which made de data unreadable to SPSS, the software used for analysis. I've spent two full (CEO-working-hour) weeks manually recoding the data in order for it to be accessible and useable. In this process, I utilized script (SPSS Syntax) which ensured that even after new errors appeared which needed to be solved in earlier steps, time had not been lost as the code could be run again. As such, analysis was made possible. Next time, I would inquire more among other users what their experiences with the programs were. Even though Spotler is not commonly used and experiences with using it on such a large scale would probably not have been available, Qualtrics is commonly used among graduates. As such, previous experiences might have prevented the situation which resulted.

At my second presentation, in which I presented the theoretical justification and research design for this thesis, I set goals for myself. My academic goals regarding the thesis were to deliver a report that is well written and structured. The surveys needed to be professional. The statistical analysis needed to be clear, well structured, unbiased and visually appealing. As such, the goal was to deliver outcomes which are viable and reliable and, above all the data and assumptions behind it had to be transparent and easily comprehensible. I worked hard to achieve the above goals, and I personally think they have been achieved. While the report could have been more compact which would have resulted in more overview, I did structure it very clearly to guide the reader through the enormous amount of knowledge and data.

My goals on a personal level were to master SPSS after this thesis, and to understand statistical analyses in-depth. While I truly became very skilled with SPSS, I now know sufficiently much about statistical analyses to recognise that my knowledge is just the tip of a very large iceberg.

My goals regarding the research itself were that I wanted it to be of real value. What a waste it would be to research something for nine months, only to put it on a shelf. And what a waste if the research in itself would not contribute to anything. As such, I am extremely happy and honoured that my research is indeed regarded as being of value. And even though this is still uncertain, the *intention* of wanting to publish my results, and the *intention* to share this knowledge with a wider public honour me immensely. With this, this goal has definitely been reached.

My goals as stated at my second presentation concluded with striving to be proud of this final work concluding my MSc program and on what I will have accomplished with it. I can now proudly state that this final goal has been achieved.

Thank you, for taking the time to read and to be interested in my thesis.

Marjolein Bons

18. References

Abadi, D., Arnaldo, I., & Fischer, A. (2020). Anxious and Angry: Emotional and Political Motives for Approving of and Complying with Hygiene Measures related to the COVID-19 Pandemic. doi:10.31234/osf.io/3vzu2

ABF Research. (2020). Primos-prognose 2020: demografische prognoses op lokaal niveau [Newsarticle]. Retrieved from https://www.abfresearch.nl/nieuws/primos-prognose-2020-demografische-prognoses-op-lokaal-niveau/

Amérigo, M. a., & Aragones, J. I. (1997). A theoretical and methodological approach to the study of residential satisfaction. *Journal of environmental psychology, 17*(1), 47-57. doi:https://doi.org/10.1006/jevp.1996.0038

Arnout, B. A., Al-Dabbagh, Z. S., Al Eid, N. A., Al Eid, M. A., Al-Musaibeh, S. S., Al-Miqtiq, M. N., . . . Al-Zeyad, G. M. (2020). The effects of corona virus (COVID-19) outbreak on the individuals' mental health and on the decision makers: A comparative epidemiological study. *Health Sciences, 9*(3), 26-47.

Aschwanden, D., Strickhouser, J. E., Sesker, A. A., Lee, J. H., Luchetti, M., Stephan, Y., . . . Terracciano, A. (2020). Psychological and Behavioural Responses to Coronavirus Disease 2019: The Role of Personality. *European Journal of Personality*. doi:https://doi.org/10.1002/per.2281

Baker, E. H. (2014). Socioeconomic status, definition. *The Wiley Blackwell encyclopedia of health, illness, behavior, and society*, 2210-2214. doi: https://doi.org/10.1002/9781118410868.wbehibs395

Blaikie, N., & Priest, J. (2019). *Designing social research: The logic of anticipation*: John Wiley & Sons.

Bosch van Rosenthal, E. (2020). 'Het is wachten op een nieuwe pandemie nu mens en dier dichter bij elkaar komen'. Retrieved from https://nos.nl/nieuwsuur/artikel/2331936-het-is-wachten-op-een-nieuwe-pandemie-nu-mens-en-dier-dichter-bij-elkaar-komen.html

Boumeester, H. (2021). *Vereniging Eigen Huis Marktindicator: 1e kwartaal 2021*. Retrieved from https://www.tudelft.nl/bk/samenwerken/kenniscentra/expertisecentrum-woningwaarde/veh-marktindicator

Cambridge Dictionary. (2021a). *Meaning of home in English*. Retrieved from https://dictionary.cambridge.org/dictionary/english/home

Cambridge Dictionary. (2021b). *Meaning of house in English*. Retrieved from https://dictionary.cambridge.org/dictionary/english/house

Cambridge Dictionary. (2021c). *Meaning of housing market in English*. Retrieved from https://dictionary.cambridge.org/dictionary/english/owner-occupier

Cambridge Dictionary. (2021d). *Meaning of owner-occupier in English*. Retrieved from https://dictionary.cambridge.org/dictionary/english/owner-occupier

CBS. (2017, November 07). Veel jonge gezinnen verlaten de grote stad. Retrieved from https://www.cbs.nl/nl-nl/nieuws/2017/45/veel-jonge-gezinnen-verlaten-de-grote-stad

CBS. (2019, June 26). Ruim 1 op 10 jonge gezinnen verliet Amsterdam in 2018. Retrieved from https://www.cbs.nl/nl-nl/nieuws/2019/26/ruim-1-op-10-jonge-gezinnen-verliet-amsterdam-in-2018

CBS. (2020a). *Gemeentelijke indeling op 1 januari 2020*. Retrieved from: https://www.cbs.nl/-/media/_excel/2020/03/gemeenten-alfabetisch-2020.xlsx
CBS. (2020b). *Tabel Buurt, wijk en gemeente 2020 voor postcode huisnummer (pc6-gwb2020.csv)*. Retrieved from: https://www.cbs.nl/nl-nl/maatwerk/2020/39/buurt-wijk-en-gemeente-2020-voor-postcode-huisnummer
CBS. (2020c, October 29). Voorraad woningen; eigendom, type verhuurder, bewoning, regio. Retrieved from https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82900NED/table?fromstatweb
CBS. (2021a, February 02). Meer verhuizingen naar regio's buiten de Randstad. Retrieved from https://www.cbs.nl/nl-nl/nieuws/2021/08/meer-verhuizingen-naar-regio-s-buiten-de-randstad
CBS. (2021b). Methoden / begrippen: Particulier huishouden. Retrieved from https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/particulier-huishouden
CBS. (2021c, January 28). Ruim 69 duizend nieuwbouwwoningen in 2020. Retrieved from https://www.cbs.nl/nl-nl/nieuws/2021/04/ruim-69-duizend-nieuwbouwwoningen-in-2020
CNV. (2020). CNV-onderzoek: werkstress neemt toe naarmate crisis langer duurt; CNV pleit voor noodhulpfonds voor werkenden. Retrieved from https://www.cnv.nl/actueel/nieuws/nieuwsdetail/cnv-onderzoek-werkstress-neemt-toe-naarmate-crisis-langer-duurt/
Coolen, H., & Hoekstra, J. (2001). Values as determinants of preferences for housing attributes. *Journal of housing and the built environment, 16*(3-4), 285-306. doi:10.1023/A:1012587323814
Coppens, T. (2020). *Residential development in Belgium: a historical institutionalist perspective*. Lectures AR2R025 Urban Area Development. Theme 5: Perspective. Lecture slides. Management in the Built Environment Delft University of Technology.
Coulter, R., & Scott, J. (2015). What motivates residential mobility? Re-examining self-reported reasons for desiring and making residential moves. *Population, Space and Place, 21*(4), 354-371.
Daniela, D. A., Gola, M., Letizia, A., Marco, D., Fara, G. M., Rebecchi, A., . . . Capolongo, S. (2020). COVID-19 and Living Spaces challenge. Well-being and Public Health recommendations for a healthy, safe, and sustainable housing. *Acta Biomed, 91*, 15. doi:10.23750/abm.v91i9-S.10115
de Groot, C. (2020). Massale toestroom stedelingen naar platteland is een illusie [Opinion]. Retrieved from https://www.rabobank.nl/kennis/s011098677-massale-toestroom-stedelingen-naar-platteland-is-een-illusie
de Jonge, H. (2020). *Stand van zaken brief COVID-19*. (610-212716-PDC19). Rijksoverheid.nl Retrieved from https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/kamerstukken/2020/10/14/stand-van-zaken-brief-covid-19/stand-van-zaken-brief-covid-19.pdf
de Palma, A., & Vosough, S. (2021). *Long, medium, and short-term effects of COVID-19 on mobility and lifestyle*. THEMA (théorie économique, modélisation et applications), Université de Cergy Paris. Retrieved from https://thema.u-cergy.fr/IMG/pdf/2021-06.pdf

Deloitte. (2020). What will be the impact of the Covid-19 pandemic on healthcare systems? [News article]. Retrieved from https://www2.deloitte.com/fr/fr/pages/covid-insights/articles/impact-covid19-healthcare-systems.html

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

Doodeman, M. (2020). Woningtekort loopt op: 26.000 nieuwbouwwoningen per jaar te weinig gebouwd [Newsarticle]. Retrieved from https://www.cobouw.nl/marktontwikkeling/nieuws/2020/03/woningtekort-loopt-op-26-000-nieuwbouwwoningen-per-jaar-te-weinig-gebouwd-101282735

Dudovskiy, J. (2018). Qualitative data Analysis. Retrieved from https://research-methodology.net/research-methods/data-analysis/qualitative-data-analysis/

Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5 ed.): SAGE Publications.

Galloway, S. (2020). Coronavirus: How the world of work may change forever. *unknown questions* Retrieved from https://www.bbc.com/worklife/article/20201023-coronavirus-how-will-the-pandemic-change-the-way-we-work

Galster, G. C., & Hesser, G. W. (1981). Residential satisfaction: Compositional and contextual correlates. *Environment and behavior, 13*(6), 735-758. doi:https://doi.org/10.1177/0013916581136006

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in personality, 37*(6), 504-528. doi:10.1016/S0092-6566(03)00046-1

Götz, F. M., Gvirtz, A., Galinsky, A. D., & Jachimowicz, J. M. (2020). How personality and policy predict pandemic behavior: Understanding sheltering-in-place in 55 countries at the onset of COVID-19. *American Psychologist*. doi:10.1037/amp0000740

Gutman, J. (1982). A Means-End Chain Model Based on Consumer Categorization Processes. *Journal of Marketing, 46*(2), 60-72. doi:10.1177/002224298204600207

Hamersma, M., de Haas, M., & Faber, R. (2020). *Thuiswerken en de coronacrisis: Een overzicht van studies naar de omvang, beleving en toekomstverwachting van thuiswerken in coronatijd* (KiM-20-A16). Retrieved from Kennisinstituut voor Mobiliteitsbeleid (KiM): https://www.kimnet.nl/publicaties/rapporten/2020/08/31/thuiswerken-en-de-coronacrisis

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

Hesselink, J., & van der Sluys, F. (2020). Covid-19 impacts on the Netherlands real estate Retrieved from https://www.cushmanwakefield.com/en/netherlands/insights/covid-19-impacts-netherlands-real-estate

Hosany, S., & Martin, D. (2012). Self-image congruence in consumer behavior. *Journal of Business Research, 65*(5), 685-691. doi:https://doi.org/10.1016/j.jbusres.2011.03.015

Hueck, H. (2020, May 27). Corona drijft huizenbezitter nog niet de stad uit. *Financieel Dagblad* Retrieved from https://fd.nl/ondernemen/1345959/corona-drijft-huizenbezitter-nog-niet-de-stad-uit

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (2020). Media Release: IPBES #PandemicsReport: Escaping the 'Era of Pandemics' [Press release]. Retrieved from https://ipbes.net/pandemics

International Monetary Fund. (2020). *World Economic Outlook: The Great Lockdown*. Retrieved from Washington, DC: https://www.imf.org/-/media/Files/Publications/WEO/2020/April/English/text.ashx

Jansen, S. J. T. (2010). Measuring residents' evaluations of their current and potential future dwellings. *Architecture Civil Engineering Environment, 3*(4), 19-30.

Jansen, S. J. T. (2013). Why is housing always satisfactory? A study into the impact of preference and experience on housing appreciation. *Social Indicators Research, 113*(3), 785-805. doi:10.1007/s11205-012-0114-9

Jansen, S. J. T. (2017). *Middagsessie 7: Leidt meer woonkwaliteit tot meer kwaliteit van wonen?* Paper presented at the Wooncongres 2017: Kwaliteit van wonen en wijken opnieuw gewogen, Haagse Hogeschool Den Haag. Conference slides retrieved from https://www.platform31.nl/uploads/media_item/media_item/98/57/7._Woonkwaliteit_Sylvia_Janssen-1511971805.pdf

Jansen, S. J. T., Coolen, H. C. C. H., & Goetgeluk, R. W. (2011). *The measurement and analysis of housing preference and choice*. Dordrecht Heidelberg London New York: Springer Science & Business Media

Janssen, S. A., Dongen, J. E. F. v., Vos, H., & Miedema, H. M. E. (2006). *Welke fysieke en sociale omgevingskenmerken bepalen woontevredenheid in de stad?* (TNO rapport 2006-D-R0229/B). Retrieved from Delft:

Kalkhoven, F., & de Vries, M. (2020). *Coronacrisis: impact op de werkgelegenheid verschilt per sector*. Retrieved from UWV Arbeidsmarktinformatie: https://www.uwv.nl/overuwv/Images/uwv-coronacrisis-impact-sectoren.pdf

Koolmees, W. (2020). *Kamervragen van het lid Judith Tielen over het bericht 'Piek ziekteverzuim zet ondernemers onder druk'*. (2020-0000069827). Rijksoverheid.nl Retrieved from https://www.rijksoverheid.nl/ministeries/ministerie-van-sociale-zaken-en-werkgelegenheid/documenten/kamerstukken/2020/07/15/beantwoording-kamervragen-piek-ziekteverzuim-zet-ondernemers-voor-het-blok

Leeuwen, E. v., & Bourdeau-Lepage, L. (2020). *Spatial differences and the impact of the lockdown on well-being in the Netherlands*. Survey results. SSRN. Retrieved from https://ssrn.com/abstract=3597707 or http://dx.doi.org/10.2139/ssrn.3597707

Levi, A. (2020). Working from home is here to stay, even when the economy reopens. Retrieved from https://www.cnbc.com/2020/05/11/work-from-home-is-here-to-stay-after-coronavirus.html

LSSP (Lean Six Sigma Partners). (2021). Nulmeting. Retrieved from https://www.leansixsigmapartners.nl/lean-six-sigma/nulmeting-lean-six-sigma-partners

Manting, D., de Groot, C., & Boschman, S. (2008). *Verhuiswensen en verhuisgedrag in Nederland. Een landsdekkend onderzoek*. Den Haag/Bilthoven: Planbureau voor de Leefomgeving (PBL).

Ministerie van Binnenlandse Zaken en Koninkrijkrelaties. (2021). inkomens- en huurgrenzen huurtoeskag 2021 bekend [Press release]. Retrieved from https://www.woningmarktbeleid.nl/actueel/nieuws/2020/11/18/inkomens--en-huurgrenzen-huurtoeslag-2021-bekend

Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (BZK), & Centraal Bureau voor de Statistiek (CBS). (2019). WoON2018: release 1.0 - Woononderzoek Nederland 2018; Supplement 2a woon 2018 vragenlijst tekst v.1.10. DANS. https://doi.org/10.17026/dans-z6v-chq9

Molin, E., Oppewal, H., & Timmermans, H. (1996). Predicting consumer response to new housing: A stated choice experiment. *Netherlands Journal of Housing and the Built Environment, 11*(3), 297-311. doi:https://doi.org/10.1007/BF02496593

Muns, S., Olsthoorn, M., Kuyper, L., & Vlasblom, J. D. (2020). *Beleidssignalement maatschappelijke gevolgen coronamaatregelen: Kwetsbare groepen op de arbeidsmarkt*. Retrieved from Sociaal en Cultureel Planbureau: https://www.scp.nl/publicaties/publicaties/2020/07/09/kwetsbare-groepen-op-de-arbeidsmarkt---beleidssignalement-maatschappelijke-gevolgen-coronamaatregelen

Nanda, A., Thanos, S., Valtonen, E., Xu, Y., & Zandieh, R. (2021). Forced homeward: the COVID-19 implications for housing. *Town Planning Review, 92*(1), 25-32. doi:https://doi.org/10.3828/tpr.2020.79

National Institutes of Health. (2020). COVID-19 is an emerging, rapidly evolving situation. Retrieved from https://www.nih.gov/coronavirus

Nederlandse Coöperatieve Vereniging van Makelaars en Taxateurs in onroerende goederen NVM U.A. (2021). Persbericht Wonen Q1 2021 [Press release]. Retrieved from https://www.nvm.nl/media/2jbbgthq/persbericht-nvm-woningmarktcijfers-q1-2021-onder-embargo.pdf

Netherlands Chamber of Commerce (KVK), Government.nl, Netherlands Enterprise Agency (RVO), & Tax and Customs Administration (Belastingdienst). (2020). The coronavirus and your company: Dutch government measures to help businesses. Retrieved from https://business.gov.nl/corona/overview/the-coronavirus-and-your-company/

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., . . . Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International journal of surgery (London, England), 78*, 185-193. doi:https://doi.org/10.1016/j.ijsu.2020.04.018

Nieuwsuur. (2020, October 9). Corona versnelt de trek naar het platteland, zeggen makelaars. *NOS*. Retrieved from https://nos.nl/nieuwsuur/artikel/2351705-corona-versnelt-de-trek-naar-het-platteland-zeggen-makelaars.html

Nieuwsuur. (2021, January 31). Grote werkgevers gaan na corona kantoorruimte schrappen. *NOS*. Retrieved from https://nos.nl/nieuwsuur/artikel/2366749-grote-werkgevers-gaan-na-corona-kantoorruimte-schrappen.html

Niewold, M. (2020, October 14). Alarmerende stijging ziekteverzuim door coronastress, angst voor golf van burn-outs. *RTL Nieuws*. Retrieved from https://www.rtlnieuws.nl/economie/life/artikel/5190236/alarmerende-stijging-ziekteverzuim-door-coronastress

NOS. (2020, March 24). Coronamaatregelen: wat mag wel en niet tot 6 april (en 1 juni)? Retrieved from https://nos.nl/collectie/13833/artikel/2328183-coronamaatregelen-wat-mag-wel-en-niet-tot-6-april-en-1-juni

OECD (Organization for Economic Co-operation and Development). (2020). Productivity gains from teleworking in the post COVID-19 era: how can public policies make it happen? Retrieved from https://www.oecd.org/coronavirus/policy-responses/productivity-gains-from-teleworking-in-the-post-covid-19-era-a5d52e99/

OECD (Organization for Economic Co-operation and Development). (2021). OECD Glossery of statistical terms: OWNER OCCUPIED HOUSING. Retrieved from https://stats.oecd.org/glossary/detail.asp?ID=5752. https://stats.oecd.org/glossary/detail.asp?ID=5752

Office for Budget Responsibility. (2020). *Commentary on the OBR coronavirus reference scenario*. Retrieved from London: https://obr.uk/coronavirus-analysis/

Orzechowski, M. A. (2004). *Measuring housing preferences using virtual reality and Bayesian belief networks.* (Doctoral). Technische Universiteit Eindhoven,

Paling, R. (2020, 11 October). Woongeluk na corona: 'Belegger moet veel gedifferentieerder gaan denken'. *Vastgoedmarkt*. Retrieved from https://www.vastgoedmarkt.nl/woningen/nieuws/2020/10/woongeluk-na-corona-belegger-moet-veel-gedifferentieerder-gaan-denken-101157515

Priemus, H. (1984). *Nederlandse woontheorieen. Volkshuisvesting in theorie en praktijk*. Delft: Delftse Universitaire Pers.

Rensink, G. (2020). Vraag naar landelijke woningen blijft stijgen. *NVM: eerste helft 2020 meer agrarische bedrijven verkocht aan particulieren*. Retrieved from https://www.nvm.nl/nieuws/2020/jaarbeeld-2020h1/

Representation of the Randstad Region in Brussels. (2019). *Randstad Monitor: Competitiveness, Business climate and Quality of life.* Retrieved from Regio Randstad: https://www.nl-prov.eu/wp-content/uploads/2019/05/randstad-monitor-gecomprimeerd-2-gecomprimeerd-compressed.pdf

Rijksinstituut voor Volksgezondheid en Milieu. (2020a, December 21). De ziekte (COVID-19). Retrieved from https://www.rivm.nl/coronavirus-covid-19/ziekte

Rijksinstituut voor Volksgezondheid en Milieu. (2020b, December 16). De ziekte (COVID-19). Retrieved from https://www.rivm.nl/coronavirus-covid-19/ziekte

Rijksinstituut voor Volksgezondheid en Milieu. (2020c, July 07). Het virus (SARS-CoV-2). Retrieved from https://www.rivm.nl/coronavirus-covid-19/virus

Rijksinstituut voor Volksgezondheid en Milieu. (2021a, May 04). In derde golf sterke stijging ziekenhuisopnames jongere leeftijdsgroepen. Retrieved from https://www.rivm.nl/nieuws/in-derde-golf-sterke-stijging-ziekenhuisopnames-jongere-leeftijdsgroepen

Rijksinstituut voor Volksgezondheid en Milieu. (2021b, May 21). Tijdlijn van maatregelen voor bestrijding COVID-19. Retrieved from https://www.rivm.nl/gedragsonderzoek/tijdlijn-maatregelen-covid

Rijksoverheid. (2020a). Aanvullende maatregelen onderwijs, horeca, sport. Retrieved from https://www.rijksoverheid.nl/actueel/nieuws/2020/03/15/aanvullende-maatregelen-onderwijs-horeca-sporthttps://

Rijksoverheid. (2020b). *Coronamaatregelen per risiconiveau*. Retrieved from Rijksoverheid.nl: https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/kaarten/2020/10/14/coronamaatregelen-per-risiconiveau/coronamaatregelen-per-risiconiveau.pdf

Rijksoverheid. (2020c). *Coronaregels per 15 december in beeld*. Retrieved from Rijksoverheid.nl: https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/publicaties/2020/12/14/toespraak-14-december-coronaregels-per-15-december-in-beeld/Webversie-Beeldsamenvatting+Coronaregels_14Dec2020_toeg_Web.pdf

Rijksoverheid. (2020d). *Coronavirus: Overzicht 'Nederland in lockdown'*. Retrieved from Rijksoverheid.nl: https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/publicaties/2020/12/14/coronavirus-overzicht-nederland-in-lockdown/201214_Nederland_in_lockdown_14_december_2020.pdf

Rijksoverheid. (2020e). Maart 2020: Maatregelen tegen verspreiding coronavirus, intelligente lockdown. *Coronavirus tijdlijn.* Retrieved from https://www.rijksoverheid.nl/onderwerpen/coronavirus-tijdlijn/maart-2020-maatregelen-tegen-verspreiding-coronavirus

Rijksoverheid. (2020f). Mei 2020: Economische gevolgen, financiële steun en versoepeling maatregelen. *Coronavirus tijdlijn.* Retrieved from https://www.rijksoverheid.nl/onderwerpen/coronavirus-tijdlijn/mei-2020-economische-gevolgen-financiele-steun-en-versoepeling-maatregelen

Rijksoverheid. (2020g). Persmoment 27 mei: actuele routekaart coronamaatregelen. Retrieved from https://www.rijksoverheid.nl/actueel/nieuws/2020/05/28/persmoment-27-mei-actuele-routekaart-coronamaatregelen

Rijksoverheid. (2020h). *Routekaart coronamaatregelen*. Retrieved from Rijksoverheid.nl: https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/kaarten/2020/10/14/routekaart-coronamaatregelen/routekaart-coronamaatregelen.pdf

Rossi, P. H. (1988, January 4). This Week's Citation Classic; "Rossi P H. Why f'amilies move: a study in the social psychology of urban residential mobility. Glencoe, IL: Free Press. 1955. 220 p.". *Institute for Scientific Information*. Retrieved from http://garfield.library.upenn.edu/classics1988/A1988L264400001.pdf

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (7th ed.). Harlow: Pearson Education Limited.

Sax, L. J., Gilmartin, S. K., & Bryant, A. N. (2003). Assessing response rates and nonresponse bias in web and paper surveys. *Research in higher education, 44*(4), 409-432.

Sheffield Hallam University. (2021, February 17). *Changing spatial preferences through Covid-19.* Paper presented at the Housing related impacts of the pandemic conference of the European Network for Housing Research, Online.

Sirgy, M. J., Grzeskowiak, S., & Su, C. (2005). Explaining housing preference and choice: The role of self-congruity and functional congruity. *Journal of housing and the built environment, 20*(4), 329-347. doi:10.1007/s10901-005-9020-7

StatLine publicaties. (2020a). *Kerncijfers wijken en buurten 2020*. Retrieved from: https://www.cbs.nl/-/media/_excel/2020/29/kwb-2020.xls

StatLine publicaties. (2020b). Toelichting variabelen kerncijfers wijken en buurten 2020 [toelichting bij dataset]. Retrieved from https://www.cbs.nl/-/media/_pdf/2020/29/toelichting-variabelen-kwb-2020.pdf

StatLine publicaties. (2021a). *Bevolking; hoogstbehaald onderwijsniveau en onderwijsrichting*. Retrieved from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82816NED/table?ts=1619967769097

StatLine publicaties. (2021b). *Regionale kerncijfers Nederland*. Retrieved from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/70072NED/table?fromstatweb

Storm, S., & Naastepad, C. W. M. (2020). *The Corona-lockdown recession* Macroeconomics for Policy Analysis Week One (20-24 April 2020). Lecture note W-1. Technology, Policy and Management Delft University of Technology. Delft.

Stuart-Fox, M., Blijie, B., Ligthart, D., Faessen, W., & Kleinepier, T. (2019). *De woningmarkt en leefbaarheid in krimpgebieden: Uitkomsten van het WoonOnderzoek Nederland (WoON) 2018 en CBS data*. Retrieved from Delft: https://www.woononderzoek.nl/nieuws/De-woningmarkt-en-leefbaarheid-in-krimpgebieden--uitkomsten-van-het-Woon2018/84

Terrell, S. R. (2012). Mixed-methods Research Methodologies. *The Qualitative Report 17*(1), 254-265. Retrieved from https://www.researchgate.net/publication/288690729_Mixed-methods_research_methodologies

Trappenburg, N. (2020, September 24). Is het echt wel nodig een miljoen nieuwe woningen te bouwen? *Financieel Dagblad*. Retrieved from https://fd.nl/futures/1357758/is-het-echt-wel-nodig-een-miljoen-nieuwe-woningen-te-bouwen

United Nations. (2020). Covid-19 and the Need for Action on Mental Health [Policy Brief]. Retrieved from https://www.un.org/sites/un2.un.org/files/un_policy_brief-covid_and_mental_health_final.pdf

United Nations Conference on Trade And Development (UNCTAD). (2020, November 19). COVID-19's economic fallout will long outlive the health crisis, report warns. *COVID-19.* Retrieved from https://unctad.org/news/covid-19s-economic-fallout-will-long-outlive-health-crisis-report-warns

United Nations Development Programme. (2020). COVID-19 pandemic: Humanity needs leadership and solidarity to defeat the coronavirus. Retrieved from https://www.undp.org/content/undp/en/home/coronavirus.html

University of Wisconsin Pupolation Health Institute. (2021). Social and Economic Factors. *2021 County Health Rankings & Roadmaps.* Retrieved from https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/social-and-economic-factors

van der Ploeg, K., van der Pal, S., de Vroome, E., & van den Bossche, S. (2014). *De kosten van ziekteverzuim voor werkgevers in Nederland*. Retrieved from Leiden: https://www.monitorarbeid.tno.nl/dynamics/modules/SPUB0102/view.php?pub_Id=100294&att_Id=4911

van Dissel, J. T. (2021). *Advies 115e OMT van het Outbreak Management Team*. (0086/2021 LCI/JvD/AT/nn). Rijksoverheid.nl Retrieved from https://www.rijksoverheid.nl/documenten/brieven/2021/05/31/advies-nav-115e-omt

Vriens, M., & Hofstede, F. T. (2000). Linking attributes, benefits, and consumer values. *Marketing Research, 12*(3), 4-10. Retrieved from https://www.researchgate.net/publication/285099049_Linking_attributes_benefits_and_consumer_values

Wilkinson, M. D., Dumontier, M., Aalbersberg, I. J., Appleton, G., Axton, M., Baak, A., . . . Mons, B. (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data, 3*(1), 160018. doi:10.1038/sdata.2016.18

World Health Organization. (2020). COVID-19 significantly impacts health services for noncommunicable diseases [News release]. Retrieved from

https://www.who.int/news/item/01-06-2020-covid-19-significantly-impacts-health-services-for-noncommunicable-diseases

Zinas, B. Z., & Jusan, M. B. M. (2012). Housing choice and preference: Theory and measurement. *Procedia-Social and Behavioral Sciences, 49*, 282-292.

19. Appendices

A. Survey mailing & landing page *(Dutch)*
B. The Survey *(Dutch)*
C. Graduation Plan

A. Survey mailing & landing page (Dutch)

Visual of mailing NieuwbouwNL to potential respondents survey:

Onderzoek TU Delft, Dura Vermeer en Nieuwbouw Nederland

Nieuwbouw Nederland

Marjolein

Zoals je wellicht in de media hebt vernomen, kent Nederland momenteel een groot woningtekort. Er moeten daarom veel nieuwe woningen worden bijgebouwd. Maar voldoen deze woningen aan de huidige woonwensen?

De **TU Delft** (faculteit *Architecture, Urbanism and Building Sciences*) doet in samenwerking met **Dura Vermeer** (een aannemende bouwer) en **Nieuwbouw Nederland** onderzoek naar of de woonwensen van Nederlanders zijn veranderd door de huidige Corona crisis. En zo ja, in welk opzicht zijn deze woonwensen veranderd?

Jouw antwoorden zijn hiervoor van groot belang. De resultaten zullen worden gebruikt voor wetenschappelijk onderzoek en om de juiste woningen en woonwijken te kunnen bouwen.

De enquête bevat zowel open als gesloten vragen, en gaan in op o.a. je huidige woonsituatie en de woonsituatie die je wenst te hebben. Het zal ongeveer 10 minuten van je tijd in beslag nemen. Als je wilt kun je de uitkomsten achteraf krijgen.

Naar de enquête

Privacy

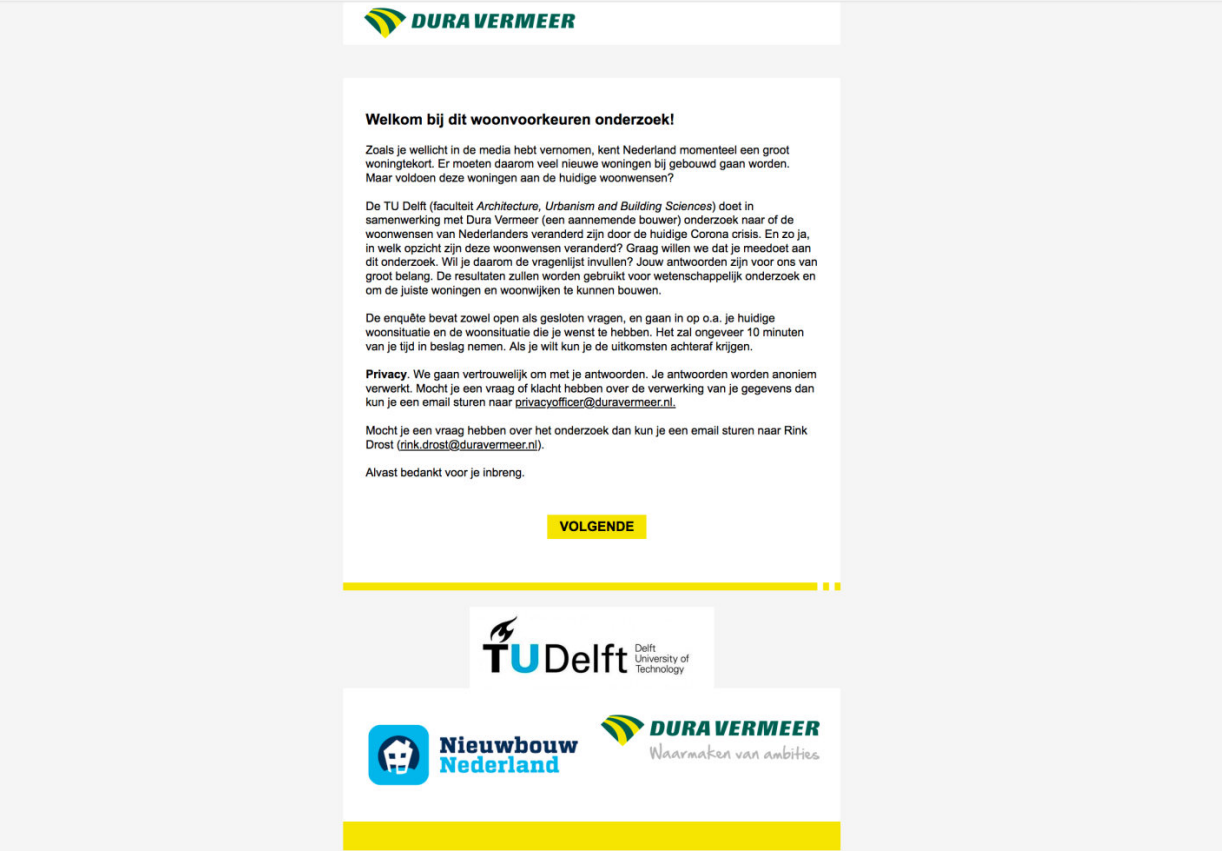
Nieuwbouw Nederland verstrekt geen persoonsgegevens ten behoeve van deze mailing en de onderliggende enquête. Alle antwoorden worden anoniem verwerkt.

Mocht je een vraag hebben over het onderzoek
dan kun je een email sturen naar info@nieuwbouw-nederland.nl

- Team Nieuwbouw Nederland -

Uitschrijven voor de nieuwsbrief

Visual of landing page survey:



B. Enquête woonwensen

Link: https://m18.mailplus.nl/wpdZqp5MWH34-2554-318000101

Pagina 1

Welkom bij dit woonvoorkeuren onderzoek!

Zoals je wellicht in de media hebt vernomen, kent Nederland momenteel een groot woningtekort. Er moeten daarom veel nieuwe woningen bij gebouwd gaan worden. Maar voldoen deze woningen aan de huidige woonwensen?

De TU Delft (faculteit *Architecture, Urbanism and Building Sciences*) doet in samenwerking met Dura Vermeer (een aannemende bouwer) onderzoek naar of de woonwensen van Nederlanders veranderd zijn door de huidige Corona crisis. En zo ja, in welk opzicht zijn deze woonwensen veranderd? Graag willen we dat je meedoet aan dit onderzoek. Wil je daarom de vragenlijst invullen? Jouw antwoorden zijn voor ons van groot belang. De resultaten zullen worden gebruikt voor wetenschappelijk onderzoek en om de juiste woningen en woonwijken te kunnen bouwen.

De enquête bevat zowel open als gesloten vragen, en gaan in op o.a. je huidige woonsituatie en de woonsituatie die je wenst te hebben. Het zal ongeveer 10 minuten van je tijd in beslag nemen. Als je wilt kun je de uitkomsten achteraf krijgen.

Privacy. We gaan vertrouwelijk om met je antwoorden. Je antwoorden worden anoniem verwerkt. Mocht je een vraag of klacht hebben over de verwerking van je gegevens dan kun je een email sturen naar privacyofficer@duravermeer.nl.

Mocht je een vraag hebben over het onderzoek dan kun je een email sturen naar Rink Drost (rink.drost@duravermeer.nl).

Alvast bedankt voor je inbreng.

Pagina 2

<Selectievraag | Stedelijkheid huidige woonplaats>
Om te beginnen zouden we je postcode willen vragen. Hiermee kunnen we kijken of de deelnemers aan dit onderzoek in stedelijk of landelijk gebied wonen en of ze wel uit alle delen van Nederland komen. Het is voor ons onderzoek echt noodzakelijk om deze postcode te kennen. Indien je deze postcode niet aan ons wilt laten weten, kun je helaas deze vragenlijst niet verder invullen.

1. **Wat is je postcode?**
   XXXXXX
   1111AA

Pagina 3

Verhuiswens

Ons onderzoek richt zich op mensen die graag ergens anders zouden willen wonen dan ze nu doen en dus op zoek zijn naar een nieuwe woning. Met andere woorden, we zijn benieuwd of je van plan bent te verhuizen. Indien dit niet het geval is, kun je helaas deze vragenlijst niet verder invullen.

2. **Wil je binnen 2 jaar verhuizen?** [radiobutton vraag]
   a. Beslist niet > Door naar p. 28
   b. Eventueel wel, misschien
   c. Zou wel willen, kan niets vinden
   d. Beslist wel
   e. Ik heb al een andere huisvesting/woning gevonden > Door naar p. 26, 28

Pagina 4

De Corona crisis is nu iets meer dan een jaar aan de gang. Op 27 februari 2020 werd het eerste geval van Corona in Nederland gemeld. We zijn benieuwd of je wens te verhuizen sindsdien is veranderd.

3. **Had je voor de Corona crisis begon ook al een verhuiswens?** [radiobutton vraag]
   a. Nee, beslist niet > p. 6 overslaan
   b. Eventueel wel, misschien
   c. Ja, beslist wel
   d. Weet ik niet

Daarnaast zijn we geïnteresseerd of je ook actie hebt ondernomen tot het vinden van een nieuwe woning.

4. **Ben je actief op zoek naar een woning? Dat wil zeggen, heb je actie ondernomen voor het vinden van een woning? (Advertenties bekijken op bijvoorbeeld Funda telt ook mee)** [radiobutton vraag]
   a. Ja, ik ben actief op zoek naar een woning
   b. Nee, ik ben niet actief op zoek naar een nieuwe woning. > Door naar p. 25, 28

Pagina 5

Verhuismotief

Je hebt aangegeven (misschien) te willen verhuizen. We zouden graag willen weten *waarom* je wilt verhuizen.

5. **Wat is/zijn de reden(en) voor de wens te verhuizen? Meerdere antwoorden mogelijk.** [checkbox vraag]
   - ○ Verandering in huishoudsamenstelling (samenwonen, scheiding, geboorte etc.)
   - ○ Wil zelfstandig gaan wonen
   - ○ Gezondheid of behoefte aan zorg
   - ○ Studie
   - ○ Werk
   - ○ Financiële reden
   - ○ Huidige woning voldoet niet meer
   - ○ De woonomgeving van je huidige woning voldoet niet meer (e.g. voorzieningen, scholen, groen etc.)
   - ○ Wil dichter bij natuur wonen.

- ○ Bereikbaarheid huidige woning voldoet niet (infrastructuur, openbaar vervoer etc.)
- ○ De buren/buurtgenoten
- ○ Dichter bij familie, vrienden of kennissen wonen
- ○ Weet ik niet
- ○ Anders, namelijk …

Pagina 6

6. **In de vorige vraag heb je een (aantal) reden(en) genoemd waarom je wilt verhuizen. Als je terugdenkt aan de tijd voor de Corona crisis, had je toen dezelfde reden(en) om te willen verhuizen of is/zijn deze reden(en) veranderd?** [radiobutton vraag]
   a. De reden(en) voor de wens te verhuizen is/zijn hetzelfde gebleven > Door naar vraag 9
   b. De reden(en) voor de wens te verhuizen is/zijn wel veranderd sinds de start van de Corona crisis, maar niet DOOR de Corona crisis > Door naar vraag 7, 8
   c. De reden(en) voor de wens te verhuizen is/zijn veranderd DOOR de Corona crisis > Door naar vraag 7, 8
   d. Weet ik niet > Door naar vraag 9

7. **Wat was/waren de reden(en) voor de gewenste verhuizing voor de Corona crisis? Meerdere antwoorden mogelijk.** [checkbox vraag]
   - ○ Verandering in huishoudsamenstelling (samenwonen, scheiding, geboorte etc.)
   - ○ Wil zelfstandig gaan wonen
   - ○ Gezondheid of behoefte aan zorg
   - ○ Studie
   - ○ Werk
   - ○ Financiële reden
   - ○ Huidige woning voldoet niet meer
   - ○ De woonomgeving van je huidige woning (e.g. voorzieningen, scholen, groen etc.)
   - ○ Wil dichter bij natuur wonen.
   - ○ Bereikbaarheid huidige woning voldoet niet (infrastructuur, openbaar vervoer etc.)
   - ○ De buren/buurtgenoten
   - ○ Dichter bij familie, vrienden of kennissen wonen
   - ○ Weet ik niet
   - ○ Anders, namelijk …

8. **Je hebt aangegeven dat je reden(en) om te willen verhuizen is/zijn veranderd sinds/door de Corona crisis. Zou je dat hieronder willen toelichten?** [Commentaar box]

Pagina 7

Gevolgen Corona

De Corona crisis heeft veel impact op ons leven, en zo ook op ons wonen. Op welke manier de Corona crisis impact maakt verschilt per situatie en per persoon. We zijn benieuwd hoe de Corona crisis jouw woonwensen heeft beïnvloed. Om dat te onderzoeken vragen we je de volgende stellingen te beoordelen op de mate waarin deze op jou van toepassing zijn.

9. **Geef aan in welke mate de onderstaande stellingen op jou van toepassing zijn.** [Matrix vraag]

	Helemaal mee oneens	**Oneens**	**Neutraal**	**Eens**	**Helemaal mee eens**
Door de Corona crisis ben ik eenzamer geworden.					
Door de Corona crisis wil ik dichter bij familie of vrienden wonen.					
Door de Corona crisis wil ik vaker de natuur in.					
Door de Corona crisis wil ik wonen in een groenere omgeving.					
Door de Corona crisis wil ik dichterbij voorzieningen wonen.					
Door de Corona crisis wil ik vaker thuiswerken.					
Door de Corona crisis wil ik minder afhankelijk zijn van het OV.					
Door de Corona crisis vind ik het minder erg om verder weg te wonen van mijn werk.					

Pagina 8

Huidige woonsituatie

Tot nu hebben we steeds vragen gesteld over jouw wens te verhuizen en de mogelijke invloed van de Corona crisis daarop. In de volgende vragen zouden we meer te weten willen komen over de **woning en woonomgeving waar je nu woont**. Zo kunnen we onderzoeken of er een verband bestaat tussen mensen hun huidige woonsituatie en de wens te verhuizen naar een andere woning en/of woonomgeving.

De eerst vragen gaan over je **huidige woning.**

10. **Welke van onderstaande type woningen omschrijft het beste jouw woonsituatie?** [radiobutton vraag]
    a. Appartement (flat, etagewoning, boven- of benedenwoning, maisonnette)
    b. Rijtjeshuis, tussenwoning, hoekwoning
    c. Half-vrijstaande woning, 2-onder-1 kap woning
    d. Vrijstaande woning
    e. Boerderij, woning met tuindersbedrijf
    f. Woning met aparte winkel, kantoor-, praktijk- of bedrijfsruimte
    g. Wooneenheid met gezamenlijk gebruik van keuken en/of toilet
    h. Anders, namelijk…

11. **Kruis aan wat van toepassing is. Ik woon in...** [radiobutton vraag]
    a. Een huurwoning van een woningcorporatie > Door naar vraag 12
    b. Een huurwoning in de particuliere / vrije sector > Door naar vraag 12
    c. Een koopwoning > Door naar vraag 13
    d. Weet ik niet > Door naar vraag 12, 13
    e. Anders, namelijk… > Door naar vraag 12, 13

12. **Hoeveel huur betaal je per maand? (de kale huur, zonder servicekosten en exclusief gas, water en licht) ?** [radiobutton vraag]
    a. Tot €752,33 per maand
    b. €752,33 – €900 per maand
    c. €901 – €1200 per maand
    d. Meer dan €1200 per maand
    e. Weet ik niet / wil ik niet zeggen
    f. Ik betaal geen huur

13. **Wat is de waarde van je huidige woning?** [radiobutton vraag]
    a. t/m €150.000
    b. €150.000 – €200.000
    c. €200.000 – €250.000
    d. €250.000 – €300.000
    e. €300.000 – €400.000
    f. €400.000 – €600.000
    g. €600.000 – €800.000
    h. €800.000 – €900.000
    i. €900.000 – €1.000.000
    j. €1.000.000 of hoger
    k. Weet ik niet / wil ik niet zeggen

14. **Wat is het totale oppervlakte van je woning?** [radiobutton vraag]
    a. Tot 50 m^2
    b. 50 m^2 tot 75 m^2
    c. 75 m^2 tot 100 m^2
    d. 100 m^2 tot 125 m^2
    e. 125 m^2 tot 150 m^2
    f. 150 m^2 en groter
    g. Weet ik niet

15. **Hoeveel slaap en/of werkkamers heeft je woning?** [radiobutton vraag]
    a. 1 kamer
    b. 2 kamers
    c. 3 kamers
    d. 4 kamers
    e. 5 kamers
    f. 6 kamers
    g. Meer dan 6 kamers
    h. Weet ik niet

16. **Hoort bij je woning een buitenruimte zoals een eigen balkon, tuin, patio, binnenplaats en/of erf? Meerdere antwoorden mogelijk.** [checkbox vraag]
    ○ Balkon
    ○ Tuin
    ○ Patio
    ○ Binnenplaats

- ○ Erf
- ○ Anders, namelijk …
- ○ Bij mijn woning hoort geen buitenruimte

Pagina 9

Huidige woonsituatie

We zijn ook benieuwd in wat voor een **woonomgeving** je nu woont.

17. **Kruis aan wat van toepassing is. Ik woon in een...** [radiobutton vraag]
    Info: Het maakt niet uit als je niet weet wat de correcte benaming van je woonomgeving is. We zijn benieuwd hoe jij je woonomgeving ervaart.
    a. Grote stad
    b. Stad
    c. Kleine stad
    d. Dorp of een groot dorp
    e. Kleine kern of een klein dorp

18. **Welke woonomgeving omschrijft het best waar je nu woont?** [radiobutton vraag]
    info: Het gaat niet om de correcte benaming van je woonomgeving. We zijn benieuwd hoe jij je woonomgeving ervaart.
    a. Binnenstad
    b. Levendige stadswijk
    c. Rustige woonwijk
    d. Dorps
    e. Landelijk

Pagina 10

Gewenste woonsituatie

De vorige vragen zijn ingegaan op jouw wens te verhuizen, je huidige woning en uiteraard de invloed van Corona hierop. Met de volgende vragen zouden we er graag wat beter achter komen in wat voor een woning je zou willen wonen. Daarbij zijn we benieuwd of er wensen zijn veranderd sinds de start van-, of *door* de Corona crisis.

De volgende vragen gaan daarom over **de woning waar je naar op zoek bent**. Houd bij het antwoorden rekening met je financiële mogelijkheden.

19. **Wat voor een woning zoek je?** [radiobutton vraag]
    a. Ik zoek een koopwoning > Door naar p. 14
    b. Ik zoek een koop of huurwoning > Door naar p. 11
    c. Ik zoek een huurwoning > Door naar p. 12, 28
    d. Anders, namelijk … > Door naar p. 13

Pagina 11

Je hebt aangegeven op zoek te zijn naar een *koop*- of een *huur*woning.

Dit deel van het onderzoek richt zich op de koopwoningmarkt.
Reden hiervoor is dat de koopwoningmarkt het grootste deel van de Nederlandse woningmarkt beslaat en mensen in de koopwoningmarkt meer vrijheid voor het maken van een keuze, en daarmee vrijheid tot het vormen van een woonvoorkeur, hebben. De huurmarkt bevat namelijk 69% sociale huur, waarin men geen keuze heeft en woonvoorkeuren dus geen rol spelen. Daarbij bevindt het deel private huur in de huurwoningmarkt, waarin keuzes en voorkeuren wel een rol spelen, zich voornamelijk in de grote steden. Het onderzoeken van woonvoorkeuren in de huurwoningmarkt zou daarom een eenzijdig beeld geven.

Omdat we met dit onderzoek de woonvoorkeuren van mensen uit heel Nederland en zowel uit de grote streden als kleine dorpen willen onderzoeken, richten we ons daarom op de koopwoningmarkt.

We vragen je de volgende vragen in te vullen met je gewenste *koop*woning in gedachte.

> Door naar p. 14

Pagina 12

Je hebt aangegeven op zoek te zijn naar een huurwoning.

Dit deel van het onderzoek richt zich op de koopwoningmarkt.
Reden hiervoor is dat de koopwoningmarkt het grootste deel van de Nederlandse woningmarkt beslaat en mensen in de koopwoningmarkt meer vrijheid voor het maken van een keuze, en daarmee vrijheid tot het vormen van een woonvoorkeur, hebben. De huurmarkt bevat namelijk 69% sociale huur, waarin men geen keuze heeft en woonvoorkeuren dus geen rol spelen. Daarbij bevindt het deel private huur in de huurwoningmarkt, waarin keuzes en voorkeuren wel een rol spelen, zich voornamelijk in de grote steden. Het onderzoeken van woonvoorkeuren in de huurwoningmarkt zou daarom een eenzijdig beeld geven.

Omdat we met dit onderzoek de woonvoorkeuren van mensen uit heel Nederland en zowel uit de grote streden als kleine dorpen willen onderzoeken, richten we ons daarom op de koopwoningmarkt.

Aangezien je niet op zoek bent naar een koopwoning, kun je helaas dit deel van de vragenlijst niet invullen.

Nogmaals hartelijk bedankt voor je tijd en medewerking. Je wordt doorgestuurd naar het laatste scherm van deze enquête.

> Door naar p. 28

Pagina 13

Je hebt aangegeven op zoek te zijn naar een woning met de volgende eigendomsvorm:

[Formuliercontrole: Geeft vraag 20 + antwoord weer]
Ten eerste zijn we geïnteresseerd in de gewenste eigendomsvorm. Wat voor een woning zoek je?
< Anders, namelijk … >

Dit onderzoek richt zich op de koopwoningmarkt.

Reden hiervoor is dat de koopwoningmarkt het grootste deel van de Nederlandse woningmarkt beslaat en mensen in de koopwoningmarkt meer vrijheid voor het maken van een keuze, en daarmee vrijheid tot het vormen van een woonvoorkeur, hebben. De huurmarkt bevat namelijk 69% sociale huur, waarin men geen keuze heeft en woonvoorkeuren dus geen rol spelen. Daarbij bevindt het deel private huur in de huurwoningmarkt, waarin keuzes en voorkeuren wel een rol spelen, zich voornamelijk in de grote steden. Het onderzoeken van woonvoorkeuren in de huurwoningmarkt zou daarom een eenzijdig beeld geven.

Omdat we met dit onderzoek de woonvoorkeuren van mensen uit heel Nederland en zowel uit de grote streden als kleine dorpen willen onderzoeken, richten we ons daarom op de koopwoningmarkt.

Indien jouw gewenste eigendomsvorm hierop aansluit vragen we je de volgende vragen in te vullen met je gewenste koopwoning in gedachte. klik in dat geval op 'Ga verder met de enquête'.

Indien jouw gewenste eigendomsvorm geen aansluiting vindt op de koopwoningmarkt is dit het einde van de enquête. Klik in dat geval op 'Einde enquête'.

20. Vindt jouw gewenste eigendomsvorm aansluiting op de koopwoningmarkt? [radiobutton vraag]
- a. Ja, ga verder met de enquête > Door naar p. 14
- b. Nee, einde enquête > Door naar p. 28

Pagina 14

Gewenste woonsituatie
De volgende vragen gaan over **de woning waar je naar op zoek bent**. Houd bij het antwoorden rekening met je financiële mogelijkheden.

21. Kruis aan wat van toepassing is. Ik zoek een... [radiobutton vraag]
- a. Bestaande woning
- b. Nieuwbouwwoning
- c. Maakt niet uit
- d. Anders, namelijk …

22. In welke prijsklasse zoek je een woning? Houd hierbij rekening met je financiële situatie. [radiobutton vraag]
- a. t/m €150.000
- b. €150.000 – €200.000
- c. €200.000 – €250.000
- d. €250.000 – €300.000
- e. €300.000 – €400.000
- f. €400.000 – €600.000
- g. €600.000 – €800.000
- h. €800.000 – €900.000
- i. €900.000 – €1.000.000
- j. €1.000.000 of hoger
- k. Weet ik niet / wil ik niet zeggen

23. Hoe heb je bepaald dat je in deze prijsklasse een woning zoekt? [radiobutton vraag]
- a. Dat heb ik ingeschat op basis van inkomen, vermogen, en mogelijke overwaarde
- b. Dat heb ik gedaan door een leencapaciteitsberekening in te vullen op internet
- c. Dat heb ik gedaan door een gesprek met een financieel adviseur
- d. Anders, namelijk …

24. **Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen in dezelfde prijsklasse een woning of is je gewenste prijsklasse veranderd?** [radiobutton vraag]
    a. De gewenste prijsklasse is hetzelfde gebleven > Door naar vraag 27
    b. De gewenste prijsklasse is wel veranderd sinds de start van de Corona crisis, maar niet DOOR de Corona crisis > Door naar vrg 25, 26
    c. De gewenste prijsklasse is veranderd DOOR de Corona crisis > Door naar vrg 25, 26
    d. Weet ik niet > Door naar vraag 27

25. **In welke prijsklasse zocht je een woning voor de Corona crisis?** [radiobutton vraag]
    a. t/m €150.000
    b. €150.000 – €200.000
    c. €200.000 – €250.000
    d. €250.000 – €300.000
    e. €300.000 – €400.000
    f. €400.000 – €600.000
    g. €600.000 – €800.000
    h. €800.000 – €900.000
    i. €900.000 – €1.000.000
    j. €1.000.000 of hoger
    k. Weet ik niet / wil ik niet zeggen

26. **Je hebt aangegeven dat de prijsklasse waarin je een woning zoekt is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is?** [Commentaar vraag]

Pagina 15

Gewenste woonsituatie

De volgende vragen gaan over **de woning waar je naar op zoek bent**. Houd bij het antwoorden rekening met je financiële mogelijkheden.

27. **We zijn benieuwd in wat voor een woning je graag zou willen wonen. Wat voor type woning zoek je?** [checkbox vraag]
    a. Appartement (flat, etagewoning, boven- of benedenwoning, maisonnette)
    b. Rijtjeshuis, tussenwoning, hoekwoning
    c. Half-vrijstaande woning, 2-onder-1 kap woning
    d. Vrijstaande woning
    e. Boerderij, woning met tuindersbedrijf
    f. Woning met aparte winkel, kantoor-, praktijk- of bedrijfsruimte
    g. Wooneenheid met gezamenlijk gebruik van keuken en/of toilet
    h. Ander soort woning, namelijk….

28. **Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen hetzelfde type woning of is je gewenste type woning veranderd?** [radiobutton vraag]
    a. De gewenste type woning is hetzelfde gebleven. > Door naar vraag 31
    b. De wens voor het type woning is wel veranderd sinds de Corona crisis, maar niet DOOR de Corona crisis. > Door naar vraag 29, 30
    c. De gewenste type woning is veranderd DOOR de Corona crisis > Door naar vraag 29, 30
    d. Weet ik niet > Door naar vraag 31

29. **Welk type woning zocht je *voor* de Corona crisis?** [checkbox vraag]
    a. Appartement (flat, etagewoning, boven- of benedenwoning, maisonnette
    b. Rijtjeshuis, tussenwoning, hoekwoning
    c. Half-vrijstaande woning, 2-onder-1 kap woning

d. Vrijstaande woning
e. Boerderij, woning met tuindersbedrijf
f. Woning met aparte winkel, kantoor-, praktijk- of bedrijfsruimte
g. Wooneenheid met gezamenlijk gebruik van keuken en/of toilet
h. Ander soort woning, namelijk….

30. Je hebt aangegeven dat het type woning wat zoekt is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is? [Commentaar vraag]

Pagina 16

Gewenste woonsituatie

De volgende vragen gaan in op de gewenste **grootte van de woning** waar je naar op zoek bent. Houd bij het antwoorden rekening met je financiële mogelijkheden.

31. We willen graag weten hoe groot de woning moet zijn. Welk oppervlakte zoek je? [radiobutton vraag]
a. Tot 50 m^2
b. 50 m^2 tot 75 m^2
c. 75 m^2 tot 100 m^2
d. 100 m^2 tot 125 m^2
e. 125 m^2 tot 150 m^2
f. 150 m^2 en groter
g. Weet ik niet

32. Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen naar dezelfde grootte woning, of is de gewenste oppervlakte veranderd? [radiobutton vraag]
a. Ik zocht voor de Corona crisis ook al naar deze woning grootte. > Door naar vraag 35
b. De gewenste grootte van de woning is wel veranderd sinds de start van de Corona crisis, maar niet DOOR de Corona crisis > Door naar vraag 33, 34
c. De gewenste grootte van de woning is veranderd DOOR de Corona crisis > Door naar vraag 33, 34
d. Weet ik niet > Door naar vraag 35

33. Welk oppervlak zocht je voor de Corona crisis? [radiobutton vraag]
a. Tot 50 m^2
b. 50 m^2 tot 75 m^2
c. 75 m^2 tot 100 m^2
d. 100 m^2 tot 125 m^2
e. 125 m^2 tot 150 m^2
f. 150 m^2 en groter
g. Weet ik niet.

34. Je hebt aangegeven dat de grootte van de woning die je zoekt is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is? [Commentaar vraag]

35. Hoeveel slaap en/of werkkamers moet je nieuwe woning minimaal hebben? *Info: Keuken, badkamer, woonkamer e.d. tellen hier niet bij mee.* [radiobutton vraag]
a. 1 kamer
b. 2 kamers
c. 3 kamers
d. 4 kamers
e. 5 kamers
f. 6 kamers

g. Meer dan 6 kamers
h. Weet ik niet

36. Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen naar hetzelfde aantal slaap en/of werkkamers, of is het gewenste aantal veranderd? [radiobutton vraag]

a. Ik zocht voor de crisis ook al naar dit aantal kamers. > Door naar vraag 39
b. Het gewenste aantal kamers is wel veranderd sinds de Corona crisis, maar niet DOOR de Corona crisis. > Door naar vraag 37, 38
c. Het gewenste aantal kamers is veranderd DOOR de Corona crisis. > Door naar vraag 37, 38
d. Weet ik niet > Door naar vraag 39

37. Hoeveel slaap en/of werkkamers wilde je minimaal hebben *voor* de Corona crisis? *Info: Keuken, badkamer, woonkamer e.d. tellen hier niet bij mee.* [radiobutton vraag]

a. 1 kamer
b. 2 kamers
c. 3 kamers
d. 4 kamers
e. 5 kamers
f. 6 kamers
g. Meer dan 6 kamers
h. Weet ik niet

38. Je hebt aangegeven dat het gewenste aantal slaap en/of werkkamers dat je zoekt is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is? [Commentaar vraag]

Pagina 17

Gewenste woonsituatie

De volgende vragen gaan over **de buitenruimte** die je bij je nieuwe woning wilt hebben. Houd bij het antwoorden rekening met je financiële mogelijkheden.

39. Welke buitenruimte wil je bij voorkeur bij je nieuwe woning hebben? Meerdere antwoorden mogelijk. [checkbox vraag]

- ○ Balkon of groter balkon
- ○ Tuin of grotere tuin
- ○ Patio of grotere patio
- ○ Binnenplaats of grotere binnenplaats
- ○ Erf of groter erf
- ○ Geen voorkeur, elke buitenruimte is goed
- ○ Geen buitenruimte
- ○ Anders, namelijk …

40. Als je terugdenkt aan de tijd voor de Corona crisis, wilde je toen dezelfde buitenruimte bij je nieuwe woning hebben, of is je wens voor buitenruimte veranderd? [radiobutton vraag]

a. De gewenste buitenruimte is hetzelfde gebleven > Door naar vraag 43
b. De gewenste buitenruimte is wel veranderd sinds de Corona crisis, maar niet DOOR de Corona crisis. > Door naar vraag 41, 42
c. De gewenste buitenruimte is veranderd DOOR de Corona crisis. > Door naar vraag 41, 42
d. Weet ik niet > Door naar vraag 43

41. Welke buitenruimte wilde je bij je woning hebben *voor* de Corona crisis? Meerdere antwoorden mogelijk. [checkbox vraag]

a. Balkon of groter balkon
b. Tuin of grotere tuin
c. Patio of grotere patio
d. Binnenplaats of grotere binnenplaats
e. Erf of groter erf
f. Geen voorkeur, elke buitenruimte is goed
g. Geen buitenruimte
h. Anders, namelijk …

42. Je hebt aangegeven dat de gewenste buitenruimte die je zoekt is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is? [Commentaar vraag]

Pagina 18

Gewenste woonsituatie

De volgende vragen gaan over **de omgeving** waar je een woning wenst te vinden. Houd bij het antwoorden rekening met je financiële mogelijkheden.

43. We willen graag weten hoe ver weg je van je huidige woonplaats wilt verhuizen. Waar overweeg je naartoe te verhuizen? Meerdere antwoorden mogelijk. [checkbox vraag]

- ○ Binnen eigen buurt, > Door naar vraag 45
- ○ Binnen de wijk, > Door naar vraag 45
- ○ Binnen de gemeente, > Door naar vraag 45
- ○ Naar een andere gemeente in de provincie, > Door naar vraag 44
- ○ Naar een andere provincie > Door naar vraag 45
- ○ Naar een ander land > Door naar vraag 45
- ○ Weet ik niet / maakt niet uit > Door naar vraag 45

44. Naar welke provincie zou je willen verhuizen? Meerdere antwoorden mogelijk. [checkbox vraag]

- ○ Drenthe
- ○ Flevoland
- ○ Friesland
- ○ Gelderland
- ○ Groningen
- ○ Limburg
- ○ Noord Brabant
- ○ Noord Holland
- ○ Overijssel
- ○ Zuid Holland
- ○ Utrecht
- ○ Zeeland
- ○ Weet ik niet / Geen voorkeur
- ○ Wil ik niet zeggen

45. **Als je terugdenkt aan de tijd voor de Corona crisis, wilde je toen binnen/naar dezelfde locatie verhuizen als nu, of is je wens veranderd?** [radiobutton vraag]
    a. De gewenste locatie is hetzelfde gebleven. > Door naar vraag 48
    b. De gewenste locatie is veranderd sinds de Corona crisis, maar niet DOOR de Corona crisis > Door naar vraag 46, 47
    c. De gewenste locatie is veranderd DOOR de Corona crisis > Door naar vraag 46, 47
    d. Weet ik niet > Door naar vraag 48

46. **Waar overwoog je naartoe te verhuizen *voor* de Corona crisis?** [checkbox vraag]
    - ○ Binnen eigen buurt,
    - ○ Binnen de wijk,
    - ○ Binnen de gemeente,
    - ○ Naar een andere gemeente in de provincie,
    - ○ Naar een andere provincie
    - ○ Naar een ander land
    - ○ Weet ik niet / maakt niet uit

47. **Je hebt aangegeven dat de locatie(s) waar je zou willen wonen is/zijn veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is?** [commentaar vraag]

48. **Waar gaat je voorkeur naar uit wat betreft de grootte van de nieuwe woonplaats?** [checkbox vraag]
    - ○ Grote stad
    - ○ Stad
    - ○ Kleine stad
    - ○ Dorp of een groot dorp
    - ○ Kleine kern of een klein dorp
    - ○ Weet ik niet / Geen voorkeur

49. **Als je terugdenkt aan de tijd voor de Corona crisis, is je voorkeur wat betreft de grootte van je nieuwe woonplaats hetzelfde als toen, of is je wens veranderd?** [radiobutton vraag]
    a. De gewenste grootte van de nieuwe woonplaats is hetzelfde gebleven > Door naar vraag 52
    b. De gewenste grootte van de nieuwe woonplaats is veranderd sinds de Corona crisis, maar niet DOOR de Corona crisis > Door naar vraag 50, 51
    c. De gewenste grootte van de nieuwe woonplaats is veranderd DOOR de Corona crisis > Door naar vraag 50, 51
    d. Weet ik niet > Door naar vraag 52

50. **Waar ging je voorkeur naar uit wat betreft de grootte van de nieuwe woonplaats *voor* de Corona crisis?** [checkbox vraag]
    - ○ Grote stad
    - ○ Stad
    - ○ Kleine stad
    - ○ Dorp of een groot dorp
    - ○ Kleine kern of een klein dorp
    - ○ Weet ik niet / Geen voorkeur

51. **Je hebt aangegeven dat de gewenste grootte van je nieuwe woonplaats is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is?** [commentaar vraag]

52. **We willen graag weten wat voor soort omgeving of buurt je voorkeur heeft. Waar moet de gewenste woning liggen?** [checkbox vraag]
    - ○ Binnenstad
    - ○ Levendige stadswijk
    - ○ Rustige woonwijk
    - ○ Dorps
    - ○ Landelijk

53. **Als je terugdenkt aan de tijd voor de Corona crisis, is je voorkeur wat betreft de soort omgeving of buurt hetzelfde als toen, of is je wens veranderd?** [radiobutton vraag]
    a. De gewenste soort omgeving of buurt is hetzelfde gebleven > Door naar vraag 56
    b. De gewenste soort omgeving of buurt is veranderd sinds de Corona crisis, maar niet DOOR de Corona crisis > Door naar vraag 54, 55
    c. De gewenste soort omgeving of buurt is veranderd DOOR de Corona crisis > Door naar vrg 54, 55
    d. Weet ik niet > Door naar vraag 56

54. **In wat voor een soort omgeving of buurt zocht je een woning *voor* de Corona crisis?** [checkbox vraag]
    - ○ Binnenstad
    - ○ Levendige stadswijk
    - ○ Rustige woonwijk
    - ○ Dorps
    - ○ Landelijk

55. **Je hebt aangegeven dat de gewenste soort omgeving of buurt is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is?** [commentaar vraag]

Pagina 19

Gewenste woonsituatie

Welke **voorzieningen** mensen graag in hun directe **woonomgeving** zien verschilt per persoon. We zijn benieuwd welke voorzieningen *jij* belangrijk vindt.

56. **Welke voorzieningen wil je idealiter graag op loopafstand hebben? Meerdere antwoorden mogelijk.** [checkbox vraag]
    - ○ Winkels voor dagelijkse boodschappen
    - ○ Winkels voor mode en luxe
    - ○ Horeca & uitgaansmogelijkheden
    - ○ Culturele voorzieningen (musea, bibliotheek, bioscoop, theater)
    - ○ Vrijetijdsvoorzieningen zoals pretpark of dierentuin
    - ○ Bedrijven
    - ○ Onderwijsvoorzieningen (Basisscholen, middelbare scholen, vervolgopleidingen)
    - ○ Kinderopvang (Kinderdagverblijven, crèches, peuterspeelzalen)
    - ○ Speelvoorzieningen voor kinderen
    - ○ Sportvoorzieningen
    - ○ Zorgvoorzieningen (huisartsenpraktijk, apotheek, ziekenhuis)
    - ○ Welzijnsvoorzieningen (Ontmoetingsplekken, buurthuizen, clubs verenigingen)
    - ○ Openbaar vervoer (bus, tram, metro, trein)

- ○ Gebruiksgroen (grasvelden, parken, recreatiegebieden)
- ○ Nabijheid van natuurgebied
- ○ Anders, namelijk …

57. Als je terugdenkt aan de tijd voor de Corona crisis, wilde je toen dezelfde voorzieningen ideaal gezien op loopafstand hebben, of is je voorkeur voor voorzieningen in je woonomgeving veranderd? [radiobutton vraag]

a. De voorzieningen die ik ideaal gezien op loopafstand wil hebben zijn hetzelfde gebleven > Door naar vraag 61
b. De voorzieningen die ik ideaal gezien op loopafstand wil hebben zijn veranderd sinds de Corona crisis, maar niet DOOR de Corona crisis > Door naar vraag 58, 59, 60
c. De voorzieningen die ik ideaal gezien op loopafstand wil hebben zijn veranderd DOOR de Corona crisis > Door naar vraag 58, 59, 60
d. Weet ik niet > Door naar vraag 61

58. Van welke voorzieningen is het hebben ervan op loopafstand voor jou belangrijker geworden sinds/door de Corona crisis? [checkbox vraag]

- ○ Winkels voor dagelijkse boodschappen
- ○ Winkels voor mode en luxe
- ○ Horeca & uitgaansmogelijkheden
- ○ Culturele voorzieningen (musea, bibliotheek, bioscoop, theater)
- ○ Vrijetijdsvoorzieningen zoals pretpark of dierentuin
- ○ Bedrijven
- ○ Onderwijsvoorzieningen (Basisscholen, middelbare scholen, vervolgopleidingen)
- ○ Kinderopvang (Kinderdagverblijven, crèches, peuterspeelzalen)
- ○ Speelvoorzieningen voor kinderen
- ○ Sportvoorzieningen
- ○ Zorgvoorzieningen (huisartsenpraktijk, apotheek, ziekenhuis)
- ○ Welzijnsvoorzieningen (Ontmoetingsplekken, buurthuizen, clubs verenigingen)
- ○ Openbaar vervoer (bus, tram, metro, trein)
- ○ Gebruiksgroen (grasvelden, parken, recreatiegebieden)
- ○ Nabijheid van natuurgebied
- ○ N.v.t.
- ○ Anders, namelijk …

59. Van welke voorzieningen is het hebben ervan op loopafstand voor jou MINDER belangrijk geworden sinds/door de Corona crisis? [checkbox vraag]

- ○ Winkels voor dagelijkse boodschappen
- ○ Winkels voor mode en luxe
- ○ Horeca & uitgaansmogelijkheden
- ○ Culturele voorzieningen (musea, bibliotheek, bioscoop, theater)
- ○ Vrijetijdsvoorzieningen zoals pretpark of dierentuin
- ○ Bedrijven
- ○ Onderwijsvoorzieningen (Basisscholen, middelbare scholen, vervolgopleidingen)
- ○ Kinderopvang (Kinderdagverblijven, crèches, peuterspeelzalen)
- ○ Speelvoorzieningen voor kinderen
- ○ Sportvoorzieningen
- ○ Zorgvoorzieningen (huisartsenpraktijk, apotheek, ziekenhuis)
- ○ Welzijnsvoorzieningen (Ontmoetingsplekken, buurthuizen, clubs verenigingen)
- ○ Openbaar vervoer (bus, tram, metro, trein)

- ○ Gebruiksgroen (grasvelden, parken, recreatiegebieden)
- ○ Nabijheid van natuurgebied
- ○ N.v.t.
- ○ Anders, namelijk …

60. **Je hebt aangegeven dat je voorkeur voor het hebben van bepaalde voorzieningen op loopafstand (deels) is veranderd sinds/door de Corona crisis. Zou je hieronder willen toelichten waarom dit het geval is?** [commentaar vraag]

Pagina 20

Veranderde woonwensen

Je hebt aangegeven dat je woonwensen op de volgende onderdelen door de Corona crisis zijn veranderd:

[Formuliercontrole: Geeft de vragen 7, 25, 29, 33, 37, 41, 46, 50, 54, 58 + antwoorden weer]

In de vorige vraag heb je een (aantal) reden(en) genoemd waarom je wilt verhuizen. Als je terugdenkt aan de tijd voor de Corona crisis, had je toen dezelfde reden(en) om te willen verhuizen of is/zijn deze reden(en) veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen in dezelfde prijsklasse een woning of is je gewenste prijsklasse veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen hetzelfde type woning of is je gewenste type woning veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen naar dezelfde grootte woning, of is de gewenste oppervlakte veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, zocht je toen naar hetzelfde aantal slaap en/of werkkamers, of is het gewenste aantal veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, wilde je toen dezelfde buitenruimte bij je nieuwe woning hebben, of is je wens voor buitenruimte veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, wilde je toen binnen/naar dezelfde locatie verhuizen als nu, of is je wens veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, is je voorkeur wat betreft de grootte van je nieuwe woonplaats hetzelfde als toen, of is je wens veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, is je voorkeur wat betreft de soort omgeving of buurt hetzelfde als toen, of is je wens veranderd?	-
Als je terugdenkt aan de tijd voor de Corona crisis, wilde je toen dezelfde voorzieningen ideaal gezien op loopafstand hebben, of is je voorkeur voor voorzieningen in je woonomgeving veranderd?	-

61. Stel dat de Corona crisis wordt opgelost en het leven wordt weer ongeveer zoals dat voor de Corona crisis was. Wat betekent dit voor jouw woonwensen? Zou je voor (elk van) de hieronder genoemde veranderde woonwens(en) willen aangeven in hoeverre je denkt dat deze woonwens na de Corona crisis hetzelfde blijft of weer terug verandert naar je voorkeur van voor de Corona crisis? Indien je op een aspect geen verandering hebt ervaren in je woonvoorkeur, vink dan 'niet van toepassing' aan. [Matrix vraag]

	Ik ga volledig terug naar mijn oude woonvoorkeur	Ik ga voornamelijk terug naar mij oude woonvoorkeur	Ik blijf voornamelijk bij mijn nieuwe woonvoorkeur	Ik blijf volledig bij mijn nieuwe woonvoorkeur	Weet ik niet / niet van toepassing
Verhuisredenen					
Prijsklasse woning					
Type woning					
Grootte van de woning (oppervlakte)					
Aantal slaap en/of werkkamers van de woning					
Buitenruimte bij de woning					
Locatie (buurt, wijk, gemeente, provincie, land)					
Grootte van de woonplaats (klein dorp, dorp, kleine stad, stad, grote stad)					
Soort omgeving of buurt (landelijk, dorps, rustige woonwijk, levendige stadswijk, binnenstad)					
Voorzieningen op loopafstand					

Voorbeeld:

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Persoonsgegevens

Graag willen we nog het volgende van je weten.

62. Wat is je geboortejaar? [dropdown menu → antwoordopties 1903:2003]

<<< Antwoord is minimaal 1903 (118 jaar) en maximaal 2003 (18 dit jaar).>>>

63. Wat is je geslacht? [radiobutton vraag]

a. Vrouw
b. Man
c. Dat wil ik liever niet zeggen
d. Anders, namelijk …

64. Wat is je hoogst behaalde opleiding? [radiobutton vraag]

a. Geen diploma
b. Basisonderwijs
c. VMBO, HAVO / VWO onderbouw, MBO1
d. HAVO, VWO, MBO2-4
e. Bachelor (HBO / WO)
f. Master (HBO / WO)
g. Doctor, PhD
h. Anders, namelijk …

Pagina 22

Huishoudsamenstelling

We zijn benieuwd hoe jouw huishouden eruitziet.

65. Wat is je huishoudsamenstelling? [radiobutton vraag]

a. Je woont alleen. << a_1p_hh> > Door naar vraag 68
b. Je woont met een of meerdere volwassenen samen, maar zonder kinderen. << a_hh_z_k>> > Door naar vraag 66
c. Je woont met kinderen. << a_hh_m_k>> > Door naar vraag 66, 67

Uit hoeveel personen bestaat je huishouden (jijzelf meegerekend)?

66. Mijn huishouden bestaat uit … volwassenen [Dropdown menu vraag]

a. 1
b. 2
c. 3
d. 4
e. 5
f. 6
g. 7
h. 8
i. 9
j. 10
k. 10+

67. Mijn huishouden bestaat uit … kinderen [Dropdown menu vraag]

a. 1

b. 2
c. 3
d. 4
e. 5
f. 6
g. 7
h. 8
i. 9
j. 10
k. 10+

68. Blijft je huishoudsamenstelling gelijk na de gewenste verhuizing?

a. ja > Door naar vraag 72
b. nee > Door naar vraag 69, 70, 71

69. Uit hoeveel personen zal je huishouden bestaan na de gewenste verhuizing (jijzelf meegerekend)?

70. Mijn huishouden zal bestaan uit … volwassenen [Dropdown menu vraag]

a. 1
b. 2
c. 3
d. 4
e. 5
f. 6
g. 7
h. 8
i. 9
j. 10
k. 10+

71. Mijn huishouden zal bestaan uit … kinderen [Dropdown menu vraag]

a. 0
b. 1
c. 2
d. 3
e. 4
f. 5
g. 6
h. 7
i. 8
j. 9
k. 10
l. 10+

Pagina 23

Financiële haalbaarheid

We onderzoeken of de woonwensen die mensen hebben aansluiten op het marktaanbod, en in het speciaal of dit marktaanbod binnen de juiste prijscategorie beschikbaar is. Om dit te kunnen onderzoeken willen we graag een indicatie van je inkomen weten.

72. **Wat is je totale netto-inkomen van jou en je eventuele partner samen? (Zonder eventueel inkomen van thuiswonende kinderen)** [radiobutton vraag]
    a. Minder dan €1.050,- per maand
    b. Tussen de €1.050 en €1.300 per maand
    c. Tussen de €1.300 en €1.600 per maand
    d. Tussen de €1.600 en €2.000 per maand
    e. Tussen de €2.000 en €2.500 per maand
    f. Tussen de €2.500 en €3.000 per maand
    g. Tussen de €3.000 en €4.000 per maand
    h. Tussen de €4.000 en €5.000 per maand
    i. Tussen de €5.000 en €6.000 per maand
    j. Meer dan €6.000 per maand
    k. Weet ik niet / wil ik niet zeggen.

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Karakter

Onderzoek wijst uit dat er een verband is tussen bepaalde karaktereigenschappen en hoe men reageert op de Corona maatregelen. Om te onderzoeken of er ook een verband bestaat tussen karaktereigenschappen en de mate waarin woonvoorkeuren veranderd zijn door de Corona crisis, vragen we je de TIPI (Ten Item Personality Inventory) in te vullen.

De TIPI is een kort onderzoek naar karaktereigenschappen waarbij je telkens een combinatie van persoonlijkheidskenmerken beoordeeld naar hoe goed jij jezelf erin herkend.

Hieronder staat een aantal eigenschappen die al dan niet op jou van toepassing kunnen zijn. Noteer naast elke bewering in hoeverre je het met de bewering eens bent. Beoordeel steeds in hoeverre beide eigenschappen op jou van toepassing zijn, zelfs wanneer één eigenschap meer van toepassing is dan de andere eigenschap.

Sterk oneens
Enigszins oneens
Klein beetje oneens
Niet oneens, niet eens
Klein beetje eens
Enigszins eens
Sterk eens

(Koole, 2003)

Ik zie mijzelf als ... [Dropdown menu per koppel eigenschappen]

73. **Extravert, enthousiast**
74. **Kritisch, ruziezoekend**
75. **Grondig, gedisciplineerd**
76. **Angstig, makkelijk van streek te brengen**

77. **Open voor nieuwe ervaringen, levendige fantasie**
78. **Gereserveerd, stil**
79. **Sympathiek, vriendelijk**
80. **Lui, gemakzuchtig**
81. **Kalm, emotioneel stabiel**
82. **Weinig artistieke interesse, weinig creatief**

(Hofmans, Kuppens & Allik, 2008)

Pagina 25

Om tot een zo realistisch mogelijke benadering van de huidige woonwensen van mensen te komen, richten we ons in dit onderzoek op mensen die *actief* op zoek zijn naar een woning, en zich dus al georiënteerd hebben op wat er mogelijk is.

Je hebt aangegeven niet actief op zoek te zijn naar een nieuwe woning. Daarom kun je helaas deze vragenlijst niet verder invullen.

Nogmaals hartelijk bedankt voor je tijd en medewerking. Je wordt doorgestuurd naar het laatste scherm van deze enquête.

Pagina 26

Bij het onderzoeken van woonwensen maken we onderscheid tussen de wensen van mensen die nog op zoek zijn naar een woning, en de mensen die al een woning gevonden hebben. Indien je al een woning gevonden hebt is je wens namelijk geen aspiratie meer, maar een daadwerkelijke keuze.

Je hebt aangegeven al een andere huisvesting/woning gevonden te hebben. Daarom kun je helaas deze vragenlijst niet verder invullen.

Nogmaals hartelijk bedankt voor je tijd en medewerking. Je wordt doorgestuurd naar het laatste scherm van deze enquête.

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Je bent bijna aan het einde van de vragenlijst

In opvolging van deze enquête willen we graag met nog wat deelnemers doorpraten over hun beweegredenen achter de woonvoorkeuren.

83. Mogen we je hiervoor per e-mail een uitnodiging sturen?
a. Ja > Door naar vraag 84
b. Nee > Door naar p. 28

84. Email adres: [Invul veld]

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Dit is het einde van de enquête. Nogmaals hartelijk bedankt voor je tijd en medewerking.

Indien je op de hoogte gehouden wilt worden van de onderzoeksresultaten, laat dan hieronder je email adres

achter. Dit email adres is losgekoppeld van de ingevulde enquête en wordt alleen gebruikt om jou op de hoogte te houden van de bevindingen.

Succes met de zoektocht en alvast veel gelukgewenst in je (toekomstige) nieuwe huis!

Met hartelijke groeten,
Het onderzoeksteam van de TU Delft en Dura Vermeer

Let op: De survey wordt pas verzonden op de volgende pagina. Klik a.u.b. op 'verzenden' om de survey te verzenden.

[Ruimte voor email adres achterlaten]

Laatste pagina

Bedankt!

Je gegevens zijn succesvol verzonden.

References

Questions have been inspired by, based on or borrowed from the following questionnaires:

Joeri Hofmans, Peter Kuppens, & Allik, J. (2008). TIPI: Ten Item Personality Inventory [Translation]. Retrieved from http://gosling.psy.utexas.edu/wp-content/uploads/2014/10/TIPI-Dutch_hofmans.doc

Koole, S. L. (2003). TIPI: Ten Item Personality Inventory [Translation]. Retrieved from http://gosling.psy.utexas.edu/wp-content/uploads/2014/09/TIPI_Dutch_Koole.doc

Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (BZK), & Centraal Bureau voor de Statistiek (CBS). (2019). WoON2018: release 1.0 - Woononderzoek Nederland 2018; Supplement 2a woon 2018 vragenlijst tekst v.1.10. DANS. https://doi.org/10.17026/dans-z6v-chq9

Springco, & I&O Research. (2018). *De Grote Omgevingstest Zuid-Holland (DGOT)* [enquête].

C. Graduation Plan

[Reviewed version]

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	**Marjolein Bons**
Student number	4270193

Studio		
Name / Theme	Housing	
Main mentor	Sylvia J. T. Jansen	Housing systems; Housing preference and satisfaction.
Second mentor	Ellen H. M. Geurts	Real Estate Management
Third mentor	Peter J. Boelhouwer	Housing systems
Argumentation of choice of the studio	I have an affinity for housing. Experiencing a pandemic in which people worldwide are confined to their homes offers a unique possibility for research. As such, housing is the perfect studio for my graduation thesis.	

Graduation Company	
Company name	Dura Vermeer Vastgoed BV
Supervisor	Rink Drost

Graduation project	
Title of the graduation project	**A crisis that triggered change; How the Corona crisis impacted homeowners' housing preferences** *A study into possible change of housing preferences of (aspiring) owner-occupiers in the Netherlands resulting from the Covid-19 crisis, as to give insight into the lasting impact on future demand for the housing stock.*
Goal	
Location:	The Netherlands
The posed problem,	The Corona crisis highly affected socio-economic circumstances, and this might have changed housing preferences of people partaking in the Dutch housing market. What this change encompasses is unknown. It is, however, important to understand this change in housing preferences, as to understand demand and thus understand *what* needs to be built. Understanding what needs to be built in quality instead of just in quantity is key to a (more) sustainable housing market. The research focuses on the owner-occupied housing market because this is where the crisis's effect is discernible best. This is the case because this part of the housing market, which encompasses 57% of dwellings in the Netherlands in 2020,

	has the highest freedom of choice (CBS, 2020). Of the 43% of houses in the rental market around 69% is social, which is a market in which people do not have to ability to act freely, and housing preferences do not play as vital a role.
research questions and	**What are the effects of the Corona crisis on the housing preferences of (potential) owner-occupiers in the Dutch housing market?** For answering this question, five sub questions are formulated, which are the following: **RQ 1. What were the trends in housing preferences of (aspiring) owner-occupiers in the Dutch housing market before the Corona crisis?** **RQ 2. What are the housing preferences of (aspiring) owner occupiers in the Dutch housing market during the Corona crisis?** **RQ 3. In which way have housing preferences of (aspiring) owner occupiers changed due to the Corona crisis, and why?** **RQ 4. In which way does identified change in preferences differ between various groups of (aspiring) owner-occupiers?** **RQ 5. What are the possible long-term consequences of the Corona crisis on housing preferences of (aspiring) owner-occupiers?**
design assignment in which these result.	The resulting design assignment is an evaluation and exploration of housing preferences i.e., qualitative demand. The end product is a report which concludes *whether* change in housing preferences due to the Corona crisis has taken place, *what* this change encompasses and *how much* change occurred. Furthermore, the report discloses *where* in society the possible change transpires, and in how far this change is expected to be either temporary or permanent. Collectively, these answers constitute the effects of the Corona crisis on housing preferences of owner-occupiers in the Dutch housing market. The deliverables which this thesis report contains are amongst others: - The finalized and executed housing preferences questionnaire, - The housing preferences dataset resulting from the questionnaire, - Graphs portraying the trends in housing preferences of the selected received respondent group - Infographics illustrating reasons behind the researched changes.

Process

Method description

Type of study
The study is an evaluating and explorative study. The expectation is change has taken place in housing preferences, and this possible change is researched. The focus is on *what* change has possible taken place, and *why* this change took place in order to better understand housing preference behavior.

Type of data
The research is quantitative-led and is complemented by qualitative research. As such, this study is performed using mixed methods i.e., a combination of numerical and non-numerical data is used. This methodological triangulation ensures the overall validity.

Research Method
This thesis researches the stated preferences using mixed methods. Specifically, it utilizes the Sequential Explanatory Strategy to research the changes in preferences. This means that quantitative data collection and analysis is used to research the Corona crisis and its effect on housing preferences. For this, a survey is utilized (evaluating). The *quantitative* data collection and analysis is followed by *qualitative* data collection and analysis, which studies the reasons behind the changes (evaluating). Finally, all data is combined, and an interpretation is made in research question five (explorative).

Research techniques:

Market research
Market research is used to study the previous housing preferences and trends.

Survey
A survey is executed to study the housing preferences. Literature research determined indicators influencing housing preferences. The survey researches these indicators by means of a questionnaire. The indicators encompass the utility generating housing attributes and socio-economic changes which have taken place. Additionally, personality traits are considered an indicator as well.

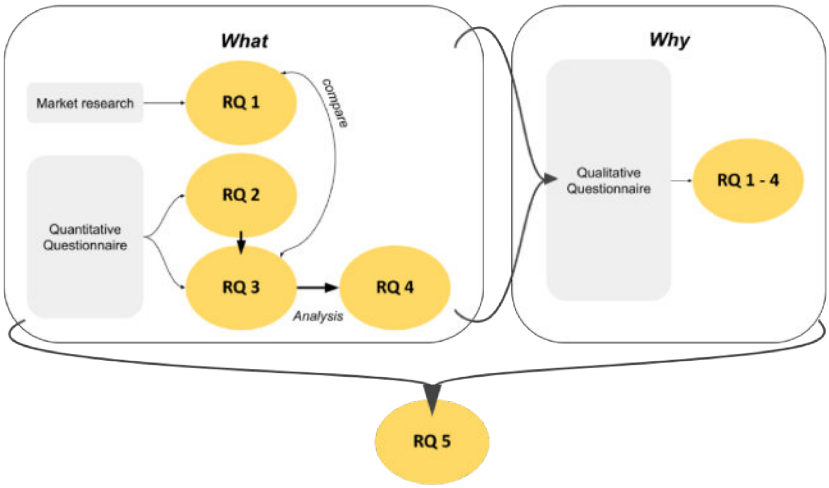
As such, people are asked in what way their socio-economic circumstances have changed due to Corona. Additionally, they are asked to express what their housing preference is, and whether this preference has changed since the crisis. Through these questions, the main utility generating housing attributes are discussed. Furthermore, the respondents are asked to fill in the TIPI (Ten-Item-Personality-Inventory). This is a 10-item assessment to evaluate personality traits.

Lastly, it is measured whether people planned to- or have acted upon those (changed) preferences. In other words, are they actively looking for a new home? All in all, three types of data are collected i.e., demographic characteristics, stated housing preferences and reported behaviour. The survey is tested before execution.

Survey – qualitative questions
Complementing the quantitative research part of the survey, the questionnaire contained a qualitative part as well in the form of open-ended questions. Its objective was to study the

reasons behind uncovered changes in preferences. Coulter and Scott (2015, p. 367) stress the importance of incorporating open-ended questions in large scale surveys, as their research showed how motivates for changing housing preferences vary substantially. They further elucidate that "Disentangling people' s specific motives for desiring and making residential moves requires a detailed coding frame, indicating that open-ended questions may be a particularly valuable way to gather data on mobility motivations" (Coulter & Scott, 2015, p. 367, referring to Niedomysl & Malmberg, 2009).

The image below illustrates which techniques are used in which part of the study.



Methods & strategies to obtain the data

The survey has been executed through an online questionnaire. Respondents for the questionnaire have been gathered through the digital newsletter of NieuwbouwNL, a company specialized market research, CRM and online communication with a focus on real estate, housing preferences and target group determination. The newsletter, which 50.000 of NieuwbouwNL their subscribers received through email, contained an invitation and a link to the survey. As such, the data has been gathered in a semi-natural setting.

The NieuwbouwNL newsletter is an informative tool for people who are interested in acquiring a newly built dwelling. As such, the respondents have all shown an interest into newly built dwellings through their newsletter subscription. This means that the respondents are oriented to the newly built owner-occupied housing market.

The sample

The sample is gathered using a probabilistic sampling method i.e., stratified random sampling. As such, a random selection of all people belonging to the specified target group is included in the research. Respondents are, as mentioned, acquired by Dura Vermeer through a third party namely NieuwbouwNL. The data is delivered as an anonymized dataset on the basis of postal codes.

Since the household composition and the place of residence (living in an urban area or in the countryside) were hypothesized to be important variables in whether change in housing preferences appeared, respondents were categorized by these factors. This enabled the analysis of the differences in changing housing preferences within these various subgroups in research question three. For doing so, each subgroup needed to contain at least thirty respondents. This was necessary in order to be in compliance with the central limit theorem, which states that samples of 30 and more have "a normal distribution and a mean equal to the population mean, and a standard deviation" (Field, 2018, p. 111).The survey was concluded when enough respondents had been acquired for each subgroup.

For determining the subgroups, the CBS classification was utilized, as shown in the image below. This classification describes household compositions as being either a one-person household, a multi-person household with children or a multi-person household without children. The place of residence is described in terms how urban a place is based on the surrounding address density of a home by means of an urbanity class, i.e., the level of urbanity code. The urbanity code ranges from highly urban to not urban at all.

a_1p_hh: One Person Household [number]
A private household consisting of one person.

a_hh_z_k: Households without Children [number]
Multi-person households without children, i.e. unmarried couples without children, married couples without children and other households.

a_hh_m_k: Households with Children [number]
Multi-person households with children, i.e. unmarried couples with children, married couples with children and single-parent households.

ste_mvs: Level of Urbanity [code]
Based on the surrounding address density, each neighborhood, district or municipality has been assigned an urbanity class. The following classification has been used:

1:	Very highly urban	≥ 2500	addresses per km^2
2:	Highly urban	1500 – 2500	addresses per km^2
3:	Moderately urban	1000 – 1500	addresses per km^2
4:	Hardly urban	500 – 1000	addresses per km^2
5:	Not urban	< 500	addresses per km^2

The utilized CBS classification of household composition and urbanity of place of residence.
(StatLine publicaties, 2020, pp. 10-11; 25)

Literature and general practical preference

[The literature (theories or research data) and general practical experience/precedent you intend to consult.]

For formulating this research proposal and its research questions, and for determining the suitable methodology, literature on housing preference theory has been consulted. This literature combined with market research and the many news articles reporting the socio-economic effects of Corona, together form the theoretical framework for this thesis. From this followed the conceptualization of the research proposal. Key is the relationship between the corona-instigated socio-economic effects and the attributes shaping a housing preference.

As explained, this thesis employs market research as well as field work.

For a full overview of all literature consulted, see the 'P4_Report_Marjolein Bons_4270193'

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

My graduation topic, research into housing preferences, is at the core of housing research, which is the topic of my studio. My Master track, Management in the Built Environment, previously called Real Estate and Housing, encompasses all things related to real estate in the Netherlands. This includes the housing market. Furthermore, the master track prides itself on the connection between the academic and practice. Performing this very hands-on study at a company fits that view.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

Societal relevance

The purpose of the research is to reduce uncertainty concerning the housing preferences of owner occupiers so that housing providers can contribute the correct additions to the housing stock on the correct places. This is of importance because people should be able to live in the housing of their preference as this contributes to housing satisfaction which in turn contributes to the overall wellbeing of people (Jansen, 2010). Furthermore, as mentioned understanding what needs to be built in quality instead of just in quantity is key to a (more) sustainable housing market.

Additionally, understanding the qualitative demand is especially now highly relevant since the current housing shortage in the Netherlands is estimated at 331 thousand homes, i.e. 4,2% of the current housing stock (ABF Research, 2020). As such, quantitative demand is high. From 2020 till 2023, at least 57 thousand homes will be built yearly and up to 83 thousand homes are needed in order to solve the shortage (Doodeman, 2020). Since a lot of homes will thus be built in the next three years, ensuring the newly added quantity is conform the required quality will help in creating the mentioned sustainable housing market. Right now, this is not being done yet, seeing as Jansen (2017, p. 28) states there is currently a gap

between the "available objective housing quality and the desired subjective housing quality". The research of this thesis will help solve this problem.

Scientific relevance

Reducing uncertainty concerning changing housing preferences in the occurrence of changed socio-economic circumstances is of importance for the prognosis is events like the current Covid-19 pandemic are to happen more often in the future. As Daszak states (As quoted by Bosch van Rosenthal, 2020) "This is the era of the pandemic". Confirming this is the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2020) which states that "future pandemics will emerge more often, spread more rapidly, do more damage to the world economy and kill more people than COVID-19", and that "it is estimated that another 1.7 million currently 'undiscovered' viruses exist in mammals and birds – of which up to 827,000 could have the ability to infect people". As such, this research contributes to uncovering how major changing circumstances due to pandemics impact the housing preferences of owner-occupiers in the real estate market, so to reduce uncertainty and enable well-founded responses in subsequent events.

Corporate relevance

From a business perspective it is of commercial interest to sell the suitable houses to the market demand. By researching what the preferences of potential homeowners are, the company can provide homes which meet the wishes of the customer and gain competitive advantage over the rival companies. As Paling (2020) states, more differentiated thinking is required from housing providers in response to the changes in requirements people have concerning amenities. Executing this research will aid in this differentiated thinking.

References:

ABF Research. (2020). Primos-prognose 2020: demografische prognoses op lokaal niveau [Newsarticle]. Retrieved from https://www.abfresearch.nl/nieuws/primos-prognose-2020-demografische-prognoses-op-lokaal-niveau/

Bosch van Rosenthal, E. (2020). 'Het is wachten op een nieuwe pandemie nu mens en dier dichter bij elkaar komen'. Retrieved from https://nos.nl/nieuwsuur/artikel/2331936-het-is-wachten-op-een-nieuwe-pandemie-nu-mens-en-dier-dichter-bij-elkaar-komen.html

CBS. (2020, October 29). Voorraad woningen; eigendom, type verhuurder, bewoning, regio. Retrieved from https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82900NED/table?fromstatweb

Coulter, R., & Scott, J. (2015). What motivates residential mobility? Re-examining self-reported reasons for desiring and making residential moves. *Population, Space and Place, 21*(4), 354-371.

Doodeman, M. (2020). Woningtekort loopt op: 26.000 nieuwbouwwoningen per jaar te weinig gebouwd [Newsarticle]. Retrieved from https://www.cobouw.nl/marktontwikkeling/nieuws/2020/03/woningtekort-loopt-op-26-000-nieuwbouwwoningen-per-jaar-te-weinig-gebouwd-101282735

Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5 ed.): SAGE Publications.

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (2020). Media Release: IPBES #PandemicsReport: Escaping the 'Era of Pandemics' [Press release]. Retrieved from https://ipbes.net/pandemics

Jansen, S. J. T. (2010). Measuring residents' evaluations of their current and potential future dwellings. *Architecture Civil Engineering Environment, 3*(4), 19-30.

Jansen, S. J. T. (2017). *Middagsessie 7: Leidt meer woonkwaliteit tot meer kwaliteit van wonen?* Paper presented at the Wooncongres 2017: Kwaliteit van wonen en wijken opnieuw gewogen, Haagse Hogeschool Den Haag. Conference slides retrieved from https://www.platform31.nl/uploads/media_item/media_item/98/57/7._Woonkwaliteit_Sylvia_Janssen-1511971805.pdf

Paling, R. (2020, 11 October). Woongeluk na corona: 'Belegger moet veel gedifferentieerder gaan denken'. *Vastgoedmarkt*. Retrieved from https://www.vastgoedmarkt.nl/woningen/nieuws/2020/10/woongeluk-na-corona-belegger-moet-veel-gedifferentieerder-gaan-denken-101157515

StatLine publicaties. (2020). Toelichting variabelen kerncijfers wijken en buurten 2020 [toelichting bij dataset]. Retrieved from https://www.cbs.nl/-/media/_pdf/2020/29/toelichting-variabelen-kwb-2020.pdf