

Building resilience

Unveiling the power of the built environment in fostering resilience for liveable and thriving neighbourhoods

Master thesis P5

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Preface

I wanted to start this preface with something like "the last year I have been working hard on this thesis," but for me, it is important to go back a little further in time. This process started during the pre-master's program, which has been the most challenging year for me education-wise. I was confident from the start that the master's in Management in the Built Environment would suit me, but the pre-master was a completely different story. I have always believed that if you work hard enough, everything is achievable, but the pre-master's courses distorted this picture for me. My talent is clearly not in design, so taking courses that focused solely on this was very challenging. Despite the fact that earning a master's degree is quite an achievement, the biggest victory for me has still been completing the pre-master.

Having said that, writing this thesis has not been without its ups and downs either. Defining a topic already proved more difficult than expected, and, to my mind, there was very little time between the start of the academic year and the first progress assessments. Nevertheless, with the help of my supervisors and other external advisors, I managed to come up with a topic that matched my interests. At the same time, it was clear to everyone that this research on living environments has its complexities, which meant that the certainty I usually try to find was not always there. Especially after the first interviews, I often wondered what to make of everything.

I can now see that my perseverance has paid off in this thesis. Through persistent efforts, I have achieved a result I am very proud of. Despite finding it quite difficult to obtain the right information during the interviews, I think in the end I gathered insightful data. Writing down the results was also challenging, but by continuously writing and re-writing, I managed to create a clear and comprehensive story on paper.

A word of thanks goes to my supervisors, Peter Boelhouwer and Gerard van Bortel, who assisted me throughout this process. The intensity of their guidance varied in a pleasant manner. At times, I was able to make significant progress independently, while at other times, I had many questions and doubts and they provided support at the right moments. I am also grateful to Jeroen Frissen for essentially guiding me to this topic and for the conversation I had with him at the end of my research, as well as to my supervisor at my internship company. I have already thanked all the interviewees, of course, but I want to give them a special mention here and thank them again for their participation.

Perhaps a bit cliché, but I must acknowledge my family and partner here as well. I cannot overstate their unwavering support through this journey. Finally, the very last few weeks have been quite mixed due to personal circumstances involving close friends. While it is not my place to delve into the details, I sincerely hope that if I ever were to read this thesis again, everything has turned out positively. Therefore, I would like to conclude with a statement that may not entirely suit me, but I certainly intend to live by more often:

Carpe Diem & enjoy reading,

Daphne van Dorth

Delft, June 2024

Abstract – In many Dutch neighbourhoods with a large social housing stock, a concerning development of nuisance and unsafety is emerging alongside an increasing concentration of vulnerable residents. These neighbourhoods often show little resilience, resulting in reduced overall liveability. Research indicates the important role of the built environment in shaping neighbourhood resilience. However, studies in the past decade have mostly overlooked the connection between social environments, such as neighbourhoods and the specific elements that enhance resilience. This knowledge gap makes it difficult to understand how the built environment can contribute to neighbourhood resilience. Therefore, this study aimed to explore how the built environment can enhance neighbourhood resilience to help prevent a decline in liveability when neighbourhoods face an influx of vulnerable residents by answering the following research question: “How can the built environment foster and enhance resilience within Dutch Neighbourhoods characterised by a large social housing stock and growing concentrations of vulnerable residents, thereby addressing the unfavourable developments of nuisance and unsafety in these areas?” To answer this research question, quantitative and qualitative data collection methods were used. The approach involved selecting two cases using the resilience maps available on ‘Aedes’ and the ‘leefbaarometer’. Within these two neighbourhoods, in-depth interviews were conducted with municipalities, housing associations and other institutes like welfare organisations, to gather insights into the usage and quality of the built environment. Both neighbourhoods highlight the necessity of guiding youth and organising various social activities, where suitable amenities play a crucial role. Importantly, beyond this need for appropriate amenities, it is often the individuals and professionals involved who make the difference. Unfortunately, both neighbourhoods have also exhibited negative dynamics. Unlike how resilient neighbourhoods are often described as well-maintained, the two investigated neighbourhoods do not fit this description. Poor maintenance undermines neighbourhood resilience in both cases. In one neighbourhood, it primarily fosters feelings of unsafety for some residents, while in the other, a combination of housing type and poor maintenance is associated with undesirable and criminal activities. However, valuable lessons can be learned from these negative aspects. Based on both positive and negative experiences in the neighbourhoods and their identified needs, eight recommendations have been proposed. These recommendations pertain to essential amenities, necessary professionals and other crucial aspects to consider.

Key words – Neighbourhood resilience, built environment, vulnerable residents, social housing, Dutch neighbourhoods, liveability

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Chapter 1

1. Introduction

This first chapter demonstrates the relevance of this research through the problem statement. It then outlines the research objectives and questions, followed by a deeper exploration of its societal and scientific relevance. Additionally, it defines the audiences for whom this research holds significance and the personal goals of the researcher. At the end of the chapter, a reading guide is provided for the subsequent chapters.

1.1 Research context and problem statement

The Netherlands has long grappled with vulnerable neighbourhoods. While definitions of vulnerable neighbourhoods and its residents have evolved over time, the underlying principle remains consistent: certain resident compositions seem to be related to reduced liveability. A fairly recent example of improving liveability in vulnerable neighbourhoods is the 40-neighbourhood approach, which aimed to facilitate social mobility for residents. By ensuring that residents who had ascended the social ladder could relocate into better housing within the same neighbourhood, these residents would not leave and instead contribute to strengthening the neighbourhood. However, the approach was prematurely halted due to the financial crisis and reports indicating limited effectiveness (Ouwehand, 2018).

After the 40-neighbourhood approach, a period of little focus on improving vulnerable neighbourhoods followed. This trend shifted with the publication of reports on resilience in corporation ownership by 'Aedes'. These reports, first published in 2018, showed that an increase in the number of vulnerable residents often coincides with heightened levels of nuisance and unsafety. An update in 2020 further revealed that neighbourhoods with a large social housing stock, where liveability is already under strain, frequently experience a further influx of vulnerable residents. Consequently, nuisance and unsafety tend to further increase, widening the disparity between neighbourhoods with high and low levels of corporation ownership (Leidelmeijer et al., 2020; Platform 31, 2023).

It is already implied in the name, but the resilience reports have introduced a new concept. Instead of solely assessing liveability, there is now an emphasis on resilience. Resilience in this context is defined as the extent to which a neighbourhood can cope with an increasing concentration of vulnerable residents. In a resilient neighbourhood, an increase in vulnerable residents will not lead to reduced liveability. In a highly resilient neighbourhood, liveability may even improve, despite an influx of vulnerable residents (Leidelmeijer et al., 2020). By evaluating neighbourhoods based on resilience rather than just liveability, it becomes more comprehensible where current residents can better handle an increase in vulnerable residents. Thus, differences between apparently similar neighbourhoods become better visible. Two neighbourhoods may experience similar issues, but one might be more effective in preventing further problems than the other.

When it becomes evident that resilience is lacking in a neighbourhood, there are several ways to intervene. One option is to improve the built environment. Research suggests that the built environment plays a significant role in shaping neighbourhood resilience. By improving the built environment, neighbourhoods could potentially become more resilient and thus better cope with changes in population dynamics. However, even though this social approach of resilience has been frequently used during the last decade, a connection with social environments such as

neighbourhoods is largely missing in these studies. This knowledge gap poses a challenge in comprehending how the built environment can contribute to neighbourhood resilience. As a result, the specific elements of the built environment that truly enhance a neighbourhood's resilience remain largely unknown (Parés et al., 2018; Platts-Fowler & Robinson, 2016). By understanding how the built environment can enhance neighbourhood resilience, it could help prevent a decline in liveability when neighbourhoods experience an influx of vulnerable residents. While it is acknowledged that numerous other factors influence resilience, some potentially more influential than the built environment, the decision to focus on this aspect was made due to the understudied nature of the relationship between the built environment and resilience.

1.2 Research objectives and research questions

Following the problem statement, this study aims to explore how the built environment can enhance neighbourhood resilience to help prevent a decline in liveability when neighbourhoods experience an influx of vulnerable residents. It seeks to determine whether, for example, the condition of current housing or specific public spaces have a significant impact on resilience. By examining which elements of the built environment are rated positively or deemed necessary in resilient neighbourhoods, it is easier to understand which interventions might be effective in less resilient neighbourhoods. Resilience seems to emerge particularly when residents have good relationships with each other and interact regularly. It is therefore important to research how elements of the built environment in resilient neighbourhoods influence behaviour. Additionally, it is important to determine how the built environment can prevent undesirable behaviour. For this research, the same definition as in the resilience reports is used. By aligning with the research by Leidelmeijer et al. (2020), it is immediately clear which neighbourhoods would benefit from the recommendations of this research. Secondly, this focus provides clear boundaries for this research, making it feasible within the time available. This research goal has led to the following research question:

“How can the built environment foster and enhance resilience within Dutch neighbourhoods characterised by a large social housing stock and growing concentrations of vulnerable residents, thereby addressing the unfavourable developments of nuisance and unsafety in these areas?”

To be able to answer this main research question, the following sub-questions were formulated:

1. How is the built environment defined and what are its key elements?
2. What criteria and methodologies can be employed to assess whether neighbourhoods can be classified as resilient or less resilient?
3. What are the characteristics of the built environment of resilient neighbourhoods?
4. Which elements of the built environment are highly valued in resilient neighbourhoods and which elements are considered less important or even have a negative impact?
5. What conclusions can be drawn regarding the influence of the built environment on neighbourhood resilience?

1.3 Deliverables

During the field research, data is primarily generated through interviews. Each interview is transcribed and coded. With these datasets, conclusions can be drawn regarding the relationship between the built environment and neighbourhood resilience. Based on these conclusions, recommendations are formulated. Depending on the nature of the data, these recommendations can be specifically directed towards relevant stakeholders. For instance, some insights may guide municipalities on potential elements for investments and other findings might highlight areas where housing associations can exert more influence. When certain neighbourhoods face significant challenges, a proactive approach to changing current practices becomes inevitable. Therefore, this research aims to support these transformations through the provided recommendations.

1.4 Societal and scientific relevance

Societal relevance

After the ending of the 40-neighbourhood approach, housing associations have encountered many challenges in their efforts to invest in liveability. The combination of stricter rules, the introduction of the landlord levy, the system changes with the introduction of the Housing Act 2015 and the economic crisis and the decentralisation and extramuralisation in social services, severely limited the abilities of housing associations to invest in liveability. As a result, several neighbourhoods that improved under the 40-neighbourhood initiative, experienced a decline in liveability after 2012. The introduction of the national liveability and safety program in 2022 shows renewed attention for liveability issues and highlights that housing associations have once again more opportunities to invest in neighbourhoods, with a focus on differentiating the housing stock (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022; Uytterlinde & Van der Velden, 2017).

However, the reports by Leidelmeijer et al. (2020) show that differentiating the housing stock in neighbourhoods with a large amount of social housing does not always lead to improvements in liveability. Additionally, it is not always feasible to undertake sufficient demolition and new construction and residents do not always view it as the most desirable solution (Meij et al., 2021). Investing in the living environment is something that current residents may find more beneficial in certain situations. Moreover, there are many other parties responsible for the liveability of a neighbourhood, such as the municipality, which should invest in public spaces and facilities. By precisely identifying which elements of the built environment benefit residents, less resilient neighbourhoods can also be equipped with these elements. This can assist residents in becoming more resilient, thereby reducing the pressure on liveability. It is equally important to clearly identify what is not working. Even in resilient neighbourhoods, various elements may exist that compromise their resilience or pose significant risks, potentially leading to a rapid loss of resilience. Therefore, it is crucial not only to acknowledge both positive and negative situations, but also to recognise that neighbourhoods may require ongoing attention.

Scientific relevance

The literature review in the next chapter indicates that many studies have already explored the concept of social resilience. However, it also highlights a lack of research into the relationship between the built environment and resilience. This research therefore aims to explore how various aspects of the built environment may impact neighbourhood resilience and it intends to identify which specific elements of the built environment play a more or less significant role. Additionally, scientific research on the influence of the built environment on resilience has not been conducted in the Netherlands and research has not specifically focussed on neighbourhoods with a large social housing stock. As a result, this study could provide many new insights and opportunities for cross-country comparisons.

1.5 Dissemination and audiences

This research holds particular relevance for municipalities and housing associations, especially those operating in neighbourhoods where the amount of social housing and the share of vulnerable residents is expected to remain high in the coming years. Of course, the study may also be relevant for other (smaller) organisations, such as welfare organisations and those collaborating with municipalities and housing associations. In principle, all organisations seeking to invest in the built environment of vulnerable neighbourhoods will benefit from the research findings. However, people working in housing associations and municipalities may be better equipped to translate the recommendations into concrete measures. The identification of specific factors within the built environment that contribute to resilience offers valuable insights to decision-makers in these organisations, providing them with better tools for making well-informed investments. Furthermore, a shift in focus toward enhancing resilience, instead of solely differentiating the housing stock, could prove especially valuable in neighbourhoods where differentiating is challenging.

1.6 Personal study targets

From a practical point of view, I would like to learn how to conduct interviews in a well-structured manner. This includes effectively preparing for interviews, but also navigating the interview when the interviewee responds differently than expected. Furthermore, it can be quite challenging to draw accurate conclusions from numerous interviews, so I believe I can learn a lot in that respect. In addition, making connections between various studies and identifying relevant research gaps is already complex. Therefore, the process of formulating a relevant yet feasible research question is, in itself, quite a learning experience.

From a social perspective, I aim to emphasise the importance of paying continued attention to vulnerable neighbourhoods. Various studies focusing on the liveability of these areas have shown diverse results and opinions. It has also become evident that liveability has been a central concern for extended periods, while at other times, it received very limited attention. With my research, I primarily intend to, once again, shed light on the individuals directly affected by liveability issues. Everyone deserves a liveable environment. Therefore, I aim to investigate how we can contribute to the resilience of the people living there.

1.7 Reading guide

The next chapter offers a comprehensive literature review. Chapter three delves into the research methodology. The research findings are presented in chapter four, along with an in-depth analysis of the two selected cases. Chapter five first addresses the sub-questions, followed by the overall conclusions and recommendations. The final chapter encompasses the discussion. The personal reflection and a more detailed explanation of the fieldwork are provided in the appendices.

Chapter 2

2. Literature review

This chapter provides a comprehensive review of the literature relevant to this study. It begins with a brief overview of vulnerable neighbourhoods and their residents. Subsequently, it delves into the concept of resilience, its emergence and discusses previous studies exploring resilience. Given the strong correlation between resilience and behaviour, the third section elaborates on the relationship between the built environment and behaviour. Sections four and five focus on defining the built environment and further explore the role of social cohesion in vulnerable neighbourhoods. Given the examination of the relationship between the built environment and behaviour, it is important to consider the concept ‘physical determinism’, which is explained in section six. Finally, the last section presents the conceptual framework that can be derived from the literature.

2.1 History of vulnerable neighbourhoods

Since this research is about vulnerable residents in disadvantaged neighbourhoods, it is important to comprehend not only who these vulnerable residents are, but also how and when interventions have been implemented in these neighbourhoods. This is essential because the recommendations in this report aim to enhance the resilience of vulnerable neighbourhoods. By providing insights into past policies, readers can better grasp why this report emphasises the influence of the built environment. The following paragraphs therefore briefly explain how liveability problems have been addressed in the past and how resilience has been introduced within Dutch neighbourhoods.

Developing strategies to improve deprived neighbourhoods is a timeless endeavour. One of these strategies involves the improvement of disadvantaged neighbourhoods through social-mixing. Naturally, this approach has a long history. The first ideas to mix neighbourhoods originated as early as the 19th century in England and have drawn interest in the Netherlands since the 20th century. This led to policies on urban renewal with a main focus on differentiating the housing stock and population in urban renewal districts (Musterd & Ostendorf, 2001; Platform 31, 2023).

To provide a concise history of these types of policies implemented in the Netherlands, we need to go back to 1997 when the note on urban renewal was introduced. This note primarily aimed at the large-scale transformation of post-war neighbourhoods. During that period, there was a significant emphasis on the negative effects of the concentration of what was then called ‘ethnic minorities’. This housing and restructuring policy aimed to bring about change in this regard. In 2003, Minister Kamp introduced the 56-neighbourhood approach to stimulate progress, as urban renewal was not progressing successfully enough. This approach primarily aimed at fostering cooperation among local stakeholders (Ouwehand, 2018; Musterd & Ostendorf, 2001).

Then, in 2006, the VROM-council issued the advice to emphasise the social uplift of residents in disadvantaged neighbourhoods and make the physical aspects subject to this social approach. This advice was followed: the social aspect was given a central place in national policy and the neighbourhood action plans for the 40 neighbourhoods designated by Minister Vogelaar. Many neighbourhoods within the 56-neighbourhood approach were also part of the 40-neighbourhood approach. The fundamental goal of the 40-neighbourhood approach was to address both social disadvantages and liveability issues in these areas, with the aim of revitalising them into thriving living, working and learning environments within a time-span of eight to ten years.

However, the 2008 financial crisis and reports appearing from 2013 onwards highlighting the limited or absent effects of this neighbourhood approach, placed the policy within a different context. In 2015, the end of the neighbourhood approach became official when Minister Blok reinstated responsibility into the hands of the market, local parties and residents. Improving deprived neighbourhoods was no longer a significant part of the agenda, until a report about resilience in areas with a large amount of social housing was published in 2018 (Ouwehand, 2018; Platform 31, 2023).

Since 2018, three reports on resilience have already been published, with updates every few years. In these resilience reports published by Leidelmeijer et al. (2020), it is observed that the concentration of vulnerable residents in areas with large amounts of social housing continues to increase. Additionally, the development of nuisance and unsafety in these same areas is less favourable compared to neighbourhoods with less social housing. Therefore, differences between these neighbourhoods and the rest of the country continue to widen. In this context, the following groups are identified as vulnerable residents:

- People dependent on welfare benefits (CBS)
- People with an origin from one of the refugee countries (Syria, Iraq, Iran, Ethiopia and Eritrea) (CBS)
- People with mild intellectual disabilities (WoonZorgwijzer)
- People with psychiatric disorders (WoonZorgwijzer)
- People with multiple, chronic somatic conditions and mobility limitations (WoonZorgwijzer)

This definition of vulnerable residents clearly indicates a shift in emphasis compared to previous policies.

The reports further show that an increasing number of housing associations are directing their policies towards more differentiation of the housing stock in order to reduce the number of vulnerable residents in neighbourhoods where liveability is under pressure. A decrease in this concentration generally correlates with improved liveability. However, especially in the areas with more than 80% social housing, a decrease in the share of vulnerable residents often does not lead to an improvement in issues related to disturbance and safety (Leidelmeijer et al., 2020).

The reports by Leidelmeijer et al. (2020) are particularly important for this study as they focus specifically on resilience in Dutch neighbourhoods. In fact, these reports have served as the main starting point for this research. They describe resilience as the extent to which a neighbourhood can cope with an increasing concentration of vulnerable residents. In a resilient neighbourhood, an influx of vulnerable residents does not result in reduced liveability. In highly resilient neighbourhoods, liveability even improves despite this increase. The number of vulnerable individuals is determined by using microdata from the CBS and data from the 'WoonZorgwijzer', as indicated above. Liveability is assessed using data on nuisance and unsafety from the 'Leefbaarometer', which includes both actual and perceived instances. Perceived unsafety encompasses factors such as feeling safe to walk the streets at night, while perceived nuisance includes neighbour disputes and disturbances caused by noisy or drunk individuals. Actual nuisance and unsafety pertain to registered offences (Mandemakers, et al., 2021). This concept of resilience is visualised in figure 1.

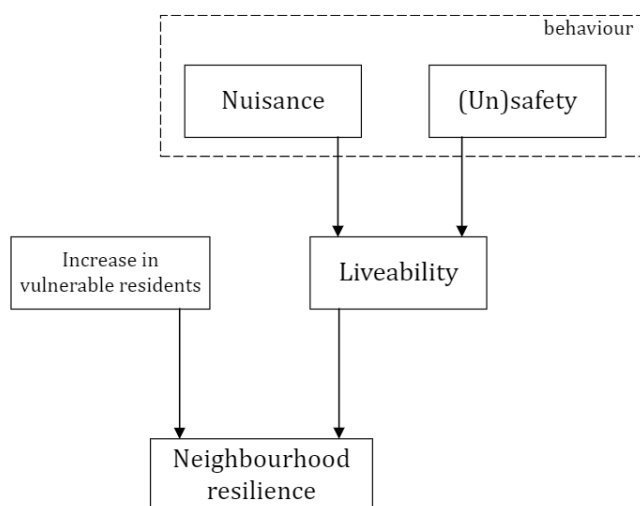


Figure 1: Neighbourhood resilience (own work)

More details on how their findings are used in this research are discussed later in this report. The following sections will first elaborate on how resilience has evolved in the social sciences and how other researchers have applied it. Section 2.5 briefly revisits the measurement of liveability at the time and the impact of social mixing on current residents. This provides more context on the benefits of focusing on the built environment and the importance of refraining from premature judgements on the efficacy of interventions.

2.2 Resilience

The concept of resilience can be traced back to its roots in the physical and natural sciences. At its fundamental core, it describes the ability to bend, bounce back and return to equilibrium in the presence of pressure and stress, as opposed to breaking. This was the foundation for the initial adaptations of resilience theory within societal contexts, which primarily focussed on preparedness for emergencies and disasters. It was therefore first used by organisations tasked with responding to challenges such as climate change, health crises, acts of terrorism and natural disasters. In the current context, resilience is more often used as a means of supporting vulnerable people and addressing inequalities (Platts-Fowler & Robinson, 2016; Norris et al., 2008).

When resilience concerns social actors (e.g., individuals, organisations or communities), it is referred to as social resilience. In contrast to the broader resilience discourse, social resilience takes on an actor-oriented perspective, emphasising the capacities and practices of these social entities instead of the functioning of systems (Keck & Sakdapolrak, 2013). Social resilience can be conceptualised within communities, neighbourhoods and cities. Magis (2010: 401) defines community resilience as “the existence, development, and engagement of community resources by community members to thrive in an environment characterised by change, uncertainty, unpredictability, and surprise”. Spaans & Waterhout (2017: 109) define urban resilience as “the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow regardless of the kinds of chronic stress and acute shocks they experience”. Both definitions touch on the idea that resilience is not just about surviving challenges, but also about

thriving and growing despite them. They recognise that resilience can lead to positive developments, not just mere survival. However, some studies limit resilience to the ability to cope with change, indicating varying levels of resilience. Although Magis (2010) and Waterhout (2017) probably describe the most advanced form of resilience, it is crucial to recognise that neighbourhoods effectively coping with change also demonstrate resilience. An important last note that remains to be made in this paragraph is that when the principles of resilience are translated from the natural to the social sciences, resilience should not be interpreted as self-reliance. It should not imply that residents are solely responsible for their own problems, allowing the state to retreat from its responsibilities (Davoudi et al., 2012).

This research focusses on social resilience within neighbourhoods, as the liveability problems outlined by Leidelmeijer et al. (2020) vary at the scale of the neighbourhood. Even among adjacent neighbourhoods, there can be significant differences in resilience levels. While social resilience has been largely studied during the last decade, its application in a geographical context has been limited in research. “The neighbourhood” is one of the possible geographical lenses through which social resilience can be conceptualised (Parés et al., 2018; Stevenson & Petrescu, 2016). Parés et al. (2018) also note the scarcity of research delving into the specific capacities that contribute to a neighbourhood’s resilience. The following paragraphs elaborate on studies that did look at neighbourhood resilience. As previously mentioned, resilience is about a neighbourhood’s ability to effectively navigate change. Each study therefore investigates a specific change. While not all studies address changes in population composition, as Leidelmeijer et al. (2020) did, their relevance lies in the exploration of issues related to liveability and the interplay between resilience and the built environment.

The research by Parés et al. (2018) offers valuable insights into resilience by examining two neighbourhoods with many characteristics in common that responded differently to the same stressor. Their study focusses on two neighbourhoods in Barcelona with similar historical contexts, yet their responses to the 2008 financial crisis were notably different. As mentioned above, Parés et al. (2018) emphasise that few studies have specifically delved into neighbourhood resilience. Furthermore, they highlight that, while multiple studies have demonstrated how to measure social resilience, too few have investigated the specific capacities that make a neighbourhood more resilient. According to their research findings, Parés et al. (2018) argue that both physical and social aspects play a role in influencing resilience. They imply that the built environment, social capital and civic capacity collectively determine a neighbourhood’s resilience. Social capital refers to the social ties people have with each other, while civic capacity is about how governmental and non-governmental entities collaborate to achieve desired outcomes.

The explanation for the selection of the two investigated neighbourhoods, ‘Ciutat Meridiana’ and ‘Bellvitge’, lacks clarity. There is a reference to prior research that examined multiple cases. This research likely describes the characteristics of the different neighbourhoods, providing Parés et al. (2018) with sufficient information to arrive at these two neighbourhoods. To ensure consistent comparisons, they maintained several constant variables. For example, both neighbourhoods were constructed in 1960, primarily through the development of apartment blocks and a significant number of the initial residents originated from the southern parts of Spain. Additionally, both neighbourhoods are home to many low-income residents. The deliberate variation in other aspects between the two neighbourhoods aims to draw valuable conclusions. Bellvitge, for instance, is much more resilient than Ciutat Meridiana, as reflected in factors such as

unemployment rate. Furthermore, the neighbourhoods differ in characteristics related to the built environment, social capital and civic capacity. Ciutat Meridiana's residents describe a lack of facilities and good public spaces. They commonly believe that they are victims of disinvestment from both public and private sectors. In contrast, Bellvitge shows that the number and quality of facilities, amenities and public spaces have increased, while the number of residents has remained roughly the same. Thus, the facility density per person has actually increased. The favourable conditions in the physical environment contribute to a sense of community pride and belonging, promoting social connections. This is further encouraged by the belief that community involvement has a positive impact on the quality of the physical aspects of the neighbourhood. Parés et al. (2018) therefore conclude that resilience is determined by the context of a neighbourhood before changes take place. The built environment is one of the three elements that determine this pre-change context.

Platts-Fowler & Robinson (2016) have written a paper in which they developed a working definition for community resilience, a method for assessing resilience and an understanding of the factors that enhance community resilience. They employ the same definition for resilience as Magis (2010), but use a more comprehensive explanation of the concept of a community. Their analysis "focusses on communities of place and, in particular, the neighbourhood" (Platts-Fowler & Robinson, 2016: 769). Thus, both the research by Parés et al. (2018) and Platts-Fowler & Robinson (2016) concentrate on neighbourhood resilience.

In contrast to Parés et al. (2018), Platts-Fowler & Robinson (2016) clearly outline their method for selecting resilient neighbourhoods. They first emphasise that a neighbourhood's resilience can vary significantly depending on the specific change or stressor considered. Therefore, it is very important to provide a thorough explanation of the particular change or stressor under investigation. In their research, resilience is measured by using regression models, where the stressor is placed on the x-axis and the outcome on the y-axis, see figure 2. The study assesses three stressors: deprivation, unemployment and loss of income and eight outcomes, including crime rates and anti-social behaviour. The resulting regression models enable the identification of neighbourhoods that exhibit higher resilience levels. A total of 100 neighbourhoods in Sheffield were examined, of which four resilient neighbourhoods were further studied to determine which factors contribute to their resilience. Figure 3 visualises how resilience levels influence the performance of a neighbourhood.

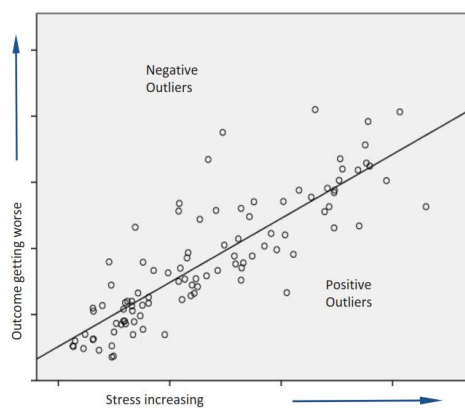


Figure 2: Identifying resilient neighbourhoods (Platts-Fowler & Robinson, 2016)

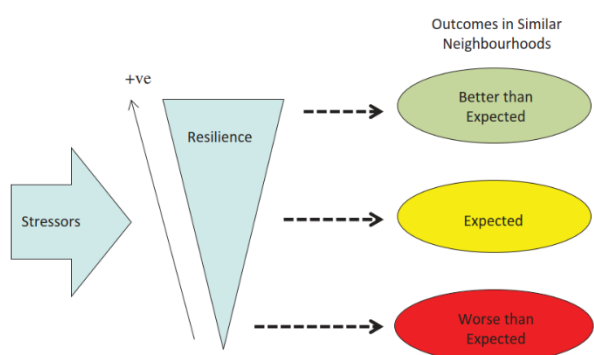


Figure 3: The effects of resilience (Platts-Fowler & Robinson, 2016)

Platts-Fowler & Robinson (2016) conducted multiple interviews within the four selected neighbourhoods. The interviews, which included residents, resident organisations and healthcare workers, aimed to explore factors contributing to the neighbourhood's better-than-expected outcomes. The interviews unveiled a recurring theme: clusters containing shops, services and various amenities played a crucial role in these neighbourhoods, alongside buildings designed for multiple activities. Furthermore, parks, particularly those designed for active use, were emphasised as very important. Within the specific case they studied in 2013, it was suggested that housing also played an important role, especially the affordability of housing. The relatively low cost of housing enabled residents to spend more time on community activities since they did not have to pay off a large mortgage (Platts-Fowler & Robinson, 2013). Another important finding was that neighbourhood resilience can easily fall apart when important facilities and amenities close or when a rapid change in population is experienced. Therefore, the potential reduction of amenities, such as libraries and other community buildings, naturally raised significant concerns. Platts-Fowler & Robinson (2016) conclude that these factors are part of the social and physical context, one of the key explanations for resilience, see figure 4. Thus, both Parés et al. (2018) and Platts-Fowler & Robinson (2016) highlight the importance of the physical context. Both studies have also highlighted that the specific resident composition of the neighbourhood did not really matter, it was more important that the local population remained stable. As a negative consequence, this could also lead to exclusion of new residents (Parés et al., 2018; Platts-Fowler & Robinson, 2016).

Explanations for resilience	Elements identified by respondents
<i>Who lives there</i> The circumstances and situations of the population	<ul style="list-style-type: none"> ● Individual resources ● Age profile ● Capacity to engage ● Population stability ● Diversity and difference
<i>Social and physical context</i> The local context or setting, including resources, services, amenities and facilities	<ul style="list-style-type: none"> ● Physical environment ● Facilities and amenities ● Service provision ● Active citizenship ● Media and communications ● Links to power and influence ● Housing ● Crime and antisocial behaviour
<i>Nature of community</i> The sense of community, including shared notions of belonging	<ul style="list-style-type: none"> ● Shared notions of belonging and identity ● Inclusive communities

Figure 4: Key explanations for resilience (Platts-Fowler & Robinson, 2016)

While the study conducted by Moore et al. (2020) may not primarily focus on the built environment, it does demonstrate once again that certain neighbourhoods can exceed expectations due to their resilience. Their study focuses on a neighbourhood in Houston, Texas, which scores poorly on various aspects, with high unemployment rates and frequent incidents of violence.

Additionally, the neighbourhood's structure is highly unfavourable, posing challenges for residents to engage in physical activity. The study investigates whether pro-social behaviour could still contribute to increased physical exercise. This relationship was indeed discovered. Therefore, a connection was established between resilience and pro-social behaviour, revealing that residents in resilient neighbourhoods participate in more social activities, offer mutual assistance and, as a result, engage in more physical activity.

Similar to the research conducted by Platts-Fowler and Robinson (2016), Breetzke & Pearson (2015) undertook a study across multiple neighbourhoods in New Zealand to identify those that overachieve in the face of adversity. By using regression models, they developed a crime resilience index based on various variables associated with high levels of crime, such as unemployment rates and income. Their research reveals that some communities respond better to criminal behaviour despite facing similar challenging circumstances, indicating a higher degree of resilience. These resilient neighbourhoods are characterised by more rural settings, higher population densities and greater proportions of long-term residents. While one might expect higher crime rates in densely populated areas, the presence of more job opportunities and amenities ultimately leads to greater resilience and fewer crimes.

Pearson et al. (2014) also conducted a study in New Zealand, investigating the connection between resilience and the quality of the housing stock. In this research, a resilient neighbourhood is defined as one that may be deprived, yet residents still exhibit good health. This study utilises a resilience index similar to the one employed by Breetzke & Pearson (2015), along with data tracking the quality of properties throughout New Zealand. The resulting models consistently demonstrated that high-quality housing significantly contributes to fostering resilience. Therefore, the researchers suggest that investing in housing quality is advisable to enhance resilience and thereby promote overall health. Figure 5 illustrates the relationship between housing quality and resilience.

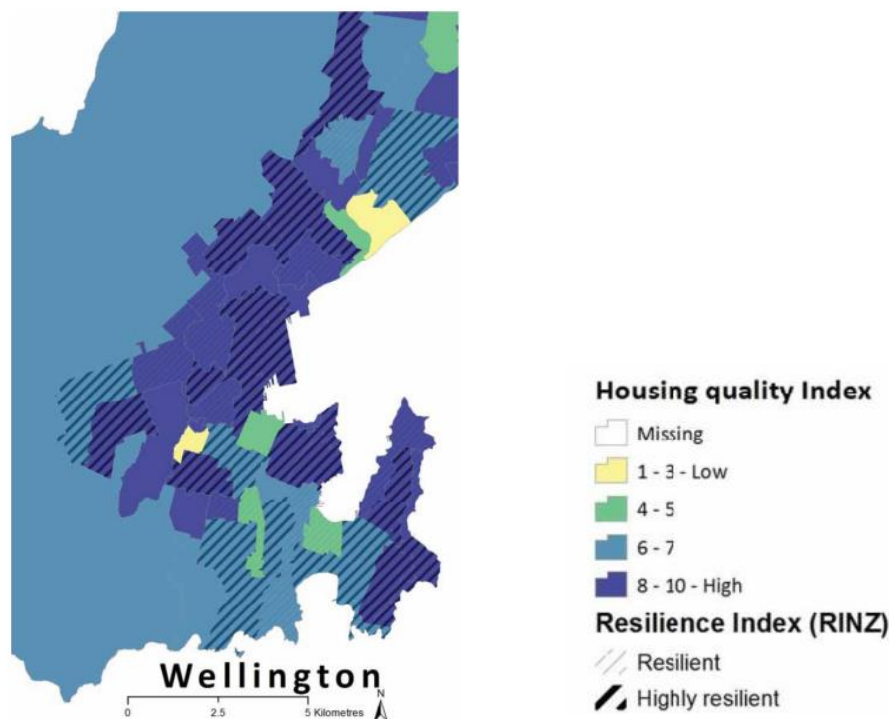


Figure 5: resilience and housing quality in Wellington, New Zealand (Pearson et al. 2014)

The final relevant study to be discussed in this section focuses on resilience in areas affected by hurricanes. Studies on disasters were intentionally avoided in this literature review, because dealing with their consequences and coping with social and economic difficulties in a neighbourhood are two very distinct aspects. However, Carpenter's (2015) research demonstrates how the built environment influences resilience in these areas through social bonds that people have developed. Resilience in this study was measured by examining the number of people who return after the disaster. The study identified intersection density, historic sites and amenities where people could easily gather like cafes and town halls as significant factors influencing resilience. Intersection density reflects connectedness, accessibility and walkability. Historic sites include monuments and cultural icons in the area.

The social aspect is a prominent theme throughout this section. It showed that residents in resilient neighbourhoods develop relationships, maintain regular contact, engage in joint activities and offer mutual assistance. This is also strongly emphasised in the resilience reports published by Aedes. The reports discuss self-reliance and co-reliance, emphasising people's ability to support one another. Neighbours should, for example, be familiar enough with each other to offer assistance when necessary (Leidelmeijer et al., 2020). Furthermore, certain aspects of the built environment, such as well-maintained homes and buildings, can instil a sense of pride in the neighbourhood. The following section therefore delves deeper into the interconnectedness of various elements of the built environment with these social dynamics. This exploration provides a clear understanding of which elements contribute to positive interactions and which may have a negative impact. Since it is further studied how the built environment can influence behaviour, it also considers how the built environment can influence nuisance and crime and what measures can be implemented to reduce it.

2.3 Social interactions, behaviour and crime

Mazumdar et al. (2018) explored the relationship between the built environment and social cohesion, as well as social capital. Social cohesion encompasses trust, familiarity, informal social connections and networks. Participation in neighbourhood organisations and assisting neighbours fall under social capital. In their research, they examined numerous studies to investigate how often these relationships occurred. Proximity to various facilities and the diversity of amenities were frequently linked to social cohesion and social capital. Several studies indicated that shorter distances to amenities like libraries contributed to enhanced social capital and social cohesion, particularly increasing interactions with neighbours and fostering community pride. Additionally, greater diversity in facilities and the presence of parks were associated with increased social cohesion.

Several other studies have also demonstrated this relationship. Numerous studies confirm that a diverse range of facilities, including local shops and well-maintained public parks, squares and sport facilities, increase mutual trust among residents, foster a willingness to help each other and promote a sense of community. It is especially important to provide people with opportunities to meet each other. The more diversity there is, the more likely people are to use certain places, increasing the likelihood of interactions. This can vary from waterfronts to libraries, for example, which can contribute to higher levels of community engagement and greater trust among residents in their neighbourhood. Walkability is also frequently cited as a factor that enhances social capital.

Therefore, neighbourhoods should be designed to encourage walking, which is only achievable if facilities are within close proximity and if footpaths are of good quality. The exact distance that people are willing to walk is not unanimously defined. Some studies suggest a maximum walking distance of 10 minutes, while others propose 20 minutes. (Arundel & Ronald, 2017; Boneham & Sixsmith, 2003; Cohen et al., 2018; Johnson, 2010; Leyden & Goldberg, 2015; Mandemakers et al., 2021; Renalds et al., 2010; Yoo & Lee, 2016).

Francis et al. (2012) also looked at sense of community. They investigated the correlation between the quality of public open spaces and shops with sense of community. Here, a sense of community refers to the connections between people. Public spaces encompass parks, squares and shopping malls. The study indicates a clear relationship between public spaces and how individuals perceive their quality. In neighbourhoods where residents appreciate the quality of public spaces and shops and also perceive them as relatively close, there was a high degree of community feeling.

In addition to these public spaces, semi-public areas can also contribute to community engagement. Front gardens, though technically belonging to a residence and typically off-limits to outsiders, often function as important transitional spaces between private and public domains. They establish a welcoming buffer zone that encourages interactions among neighbours. Of course, these interactions can only occur if gardens are not entirely enclosed by fences, emphasising the importance of how residents interact with their homes (Swapan et al., 2019). For instance, passers-by may perceive a building as deserted when all the curtains are closed during the day, creating a somewhat unwelcoming atmosphere. This is particularly common when bedrooms face public spaces (Meij et al., 2021).

Several studies also observe a relationship between social capital and (housing) quality and maintenance. Arundel & Ronald (2017) observed that post-war housing was correlated with reduced social capital and a weakened sense of community. This suggests that housing quality plays an important role in residents' sense of connection to their neighbourhood. Additionally, high-rise buildings are generally less appreciated as they can make a neighbourhood appear less attractive, regardless of the people living there. Buildings from the 1960s and 1970s represent a distinct category in this regard, as their designs have often created unclear and anonymous public spaces (Mandemakers et al., 2021). Conversely, when the built environment is perceived as well-maintained, it can lead to increased social capital, satisfaction and usage by residents. Consequently, residents spend more time in their own neighbourhood instead of seeking recreation elsewhere. Adequate amenities further contribute to residents perceiving their neighbourhood as healthy and vibrant, even when they are not actively used. If people are satisfied with their living environment, they are also less likely to relocate to other neighbourhoods, which helps prevent the loss of connections (Hickman, 2013; Leidelmeijer et al., 2020; Leyden & Goldberg, 2015; Mandemakers, 2021; Parés et al., 2018; Yoo & Lee, 2016).

In addition to considering the overall living environment, the importance of one's own home should also be considered. To illustrate this, Maslow's pyramid can be used. This model indicates that psychological and safety needs must be met first before progressing to fulfil social needs. A home of sufficient quality is essential to satisfy these psychological and safety needs, among other things (Kim & Kim, 2017). However, while this model is widely recognised and utilised, it lacks a solid theoretical foundation. Consequently, other researchers have complemented it with theoretically based elements. For instance, Kenrick et al. (2010) proposes a model wherein the initial three steps closely align with Maslow's model. They also suggest that individuals strive to fulfil the

next need only when circumstances allow for it. Thus, this model also suggests that psychological needs and self-protection must be addressed before establishing social relationships. A significant deviation from Maslow's model is the suggestion that development occurs across all steps concurrently, rather than focusing on one step at a time. Nevertheless, both models indicate the necessity of having a sufficient home before one proceeds to develop relationship (see figure 6 and 7 for the two different models).

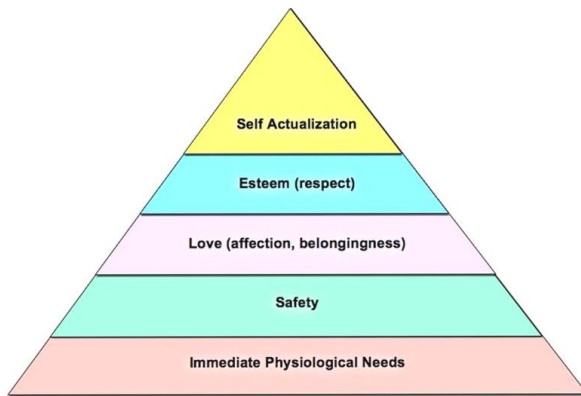


Figure 6: Maslow's hierarchy of needs (Kenrick et al., 2010)

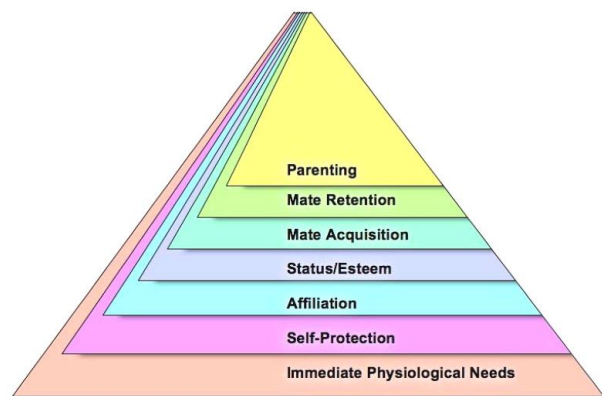


Figure 7: Adapted version of pyramid (Kenrick et al., 2010)

Several resilience reports, written specifically for individual cities such as Rotterdam or Amsterdam, also highlight the significance of the quality of housing for fostering social participation. The type of dwelling can influence the perception of nuisance and the enjoyment of living. For example, noisy houses can lead to considerable inconvenience among neighbours. Additionally, vulnerable residents may be more sensitive to such disturbances. When a house affects residents' well-being in this manner, it can hinder their ability to engage in social interactions (Leidelmeijer & Frissen, 2020).

Design features and characteristics

While many studies establish a clear relationship between aspects of the built environment and interactions, there is limited literature that provides specific design guidelines. However, for some elements there is more extensive literature. Therefore, the following paragraphs summarise important design features and characteristics for parks, playgrounds and community gardens.

In parks, adequate comfortable seating is crucial for usage and diversity within the park can enhance its appeal to various target groups, increasing the likelihood of different people meeting each other. Additionally, the presence of playgrounds within parks increases their utilisation. Tall trees evoke feelings of shelter and shade, further enhancing their potential usage. Poor maintenance and litter are often associated with criminal activity, regardless of actual crime rates and keep residents from visiting parks. Furthermore, parks should be orderly as the elderly in particular, may feel unsafe in the dark if this is not the case. Interestingly, deliberate design choices, such as omitting benches in a playground to discourage loitering, can have unintended consequences, potentially reducing the time parents spend in it due to the lack of seating. This highlights the need for customised approaches in specific locations, as one-size-fits-all solutions may not always be effective (Ayala-Azcárraga et al., 2019; Mandemakers et al., 2021; Refshauge et al., 2015; Veich et al., 2022).

There is limited research on parent interactions in playgrounds and the circumstances that encourage these interactions. The research conducted by Bennet et al. (2012) addressed this gap and revealed that playgrounds function differently from parks. Interestingly, the greater the distance to playgrounds, the more likely parents were to interact. Possible explanations include the notion that if parents exert more effort to reach a playground, they are also more inclined to stay longer, fostering familiarity and conversation. This example further emphasises the challenge of designing spaces to increase interactions. For instance, despite good intentions, a municipality may scatter many playgrounds across an area, whereas a more effective approach might involve having a single larger playground that requires residents to walk a bit further.

Unlike playgrounds, there is extensive literature on community gardens. With their recurring popularity, there has been a corresponding interest in literature discussing their benefits. Most studies conclude that community gardens often foster social interaction. Similar to other amenities, diversity within these gardens is very important, such as having spaces for communal gatherings, like enjoying a drink together or hosting barbeques can be highly beneficial. It is also essential that the majority, if not all, of the plots are shared. Furthermore, Firth et al. (2011) emphasise the importance of establishing a board comprised of individuals from the neighbourhood. This fosters a place-based orientation, ensuring that everyone in the neighbourhood can participate. Yotti Kingsley & Townsend (2006) studied a case where residents appreciated that the community garden was located in a park. This made them feel even more connected to the neighbourhood, as they could observe children playing and engage with people passing by. Clear agreements are also beneficial: for instance, if someone misses an event, their absence is noted, indicating a caring community dynamic. In addition to community gardens, smaller patches of green space within a neighbourhood can also be important. For example, residents may decide to revitalise a neglected green space by planting flowers there (Alaimo et al., 2010; Firth et al., 2011; Rogge et al., 2018; Yotti Kingsley & Townsend, 2006).

Crime and nuisance

Several studies have shown which elements of the built environment increase or decrease criminality. For example, research indicates that the arrangement of spaces within a house in relation to the street influences safety. It is important that active spaces such as kitchens and living rooms face the street. People tend to keep curtains closed when a bedroom is adjacent to public space, this should therefore be avoided. Furthermore, a distinction is often made between owner-occupied and social housing. However, it is more about the maintenance of these houses than ownership ratios. It is suggested that social housing is more prone to vandalism and neglect. When these buildings indeed appear neglected and poorly maintained, it could serve as a catalyst for more serious forms of crime, a concept often referred to as the broken window theory (Armitage, 2017; MacDonald, 2015; Meij et al., 2021).

As previously explained, a mix of functions within an area can foster greater social interactions, generally yielding positive outcomes. However, several studies indicate that this diversity can also potentially contribute to increased crime rates. Residential areas tend to experience lower concentrations of crime compared to mixed-use areas. Consequently, measures such as restricting access to certain areas or implementing time-specific closures may be necessary in mixed-use zones. These measures do not always have to be physical barriers, psychological barriers like architectural design or the layout of streets can also create a sense of separation. In

addition, certain places are attractive to loitering youth. Shopping centres in particular, are often cited as places where young people like to gather in groups without necessarily utilising the shops. Adults who then use the shopping centre as intended subsequently experience nuisance from these loitering youths and may also feel unsafe. Redeveloping shopping centres can help eliminate attractive spots for these young people. However, supplementary supervision often remains necessary to prevent the same nuisance from recurring. Factors like building height, street configuration and the presence of public transit stops also play significant roles. Studies suggest that more intersections in the street network and bus stops enhance criminal activity. On the other hand, walkability actually increases safety. Walkability has also been associated with promoting social interactions, so this aspect seems to have only positive influences (MacDonald, 2015; Sohn, 2016; Matthews et al., 2000).

In addition to this direct correlation between the built environment and crime, it can also involve feelings of unsafety and crime. When places are polluted or poorly maintained, individuals may perceive them as unsafe. This also applies, for example, to parking facilities. Dark and secluded parking spots are often perceived as unsafe, although they also often invite actual antisocial behaviour. Thus, while poorly maintained and ill designed buildings and places may indeed contribute to the occurrence of more serious forms of crime, it is also possible that individuals simply perceive a place as unsafe, leading to decreased utilisation of certain facilities and consequently, fewer social interactions (Armitage, 2013; Mandemakers et al., 2021).

2.4 Built environment

The previous sections extensively reviewed studies investigating neighbourhood-level resilience and the relationship between social interactions, behaviour, criminality and the built environment. These studies also describe in detail which specific elements of the built environment were under examination. However, given the central focus of this research on the built environment, this section will further elaborate on its interpretation.

When looking for literature on the description of the built environment, one frequently encounters very general descriptions. For instance, Moffatt & Kohler (2008) describe that the built environment is often referred to as Man-made environments that are used for human activity which can range from large-scale urban settings to private locations. However, such descriptions alone are insufficient for conducting thorough research on the influence of the built environment. Parés et al. (2018), Platts-Fowler & Robinson (2016) and Rashidfarokhi & Danivska (2023) provide tools for a more nuanced description of the built environment.

Parés et al. (2018) look at the built environment from two perspectives: morphology and geographical position. Morphology focusses on the quality of housing, amenities and public spaces and types of buildings and facilities. Geographical position explores the neighbourhood's interconnectedness with adjacent areas and its broader relationship with the city, using terms such as isolation, urban barriers and topography. It investigates the relationships between peripheral neighbourhoods and the challenges they face.

Platts-Fowler & Robinson (2016) refer to the built environment as the physical context, which, as illustrated in figure 4, includes the physical environment and green spaces, facilities, amenities and housing. In their research, green spaces, particularly parks, were consistently emphasised as highly important. Regarding facilities and amenities, the primary considerations

were a good concentration of facilities and amenities (they should not be too spread out) and suitability for intended activities. For housing, the main concern was the attractiveness of the facades.

Rashidfarokhi & Danivska (2023) look at resilience from a community perspective. They highlight the impact of the built environment on the social resilience of communities. It shows that the built environment plays an important role in shaping a collective identity and meaning within these communities, which, in turn, contributes significantly to their resilience. Furthermore, the functionality and performance of the built environment determine whether people's needs are adequately met before, during and after crises. The research identifies specific attributes of the built environment that can either positively or negatively affect social resilience, such as Urban form, Movement & accessibility, architecture and style, Technical infrastructure and functionality and aesthetics. While their research provides valuable insights into the elements of the built environment that influence social resilience, the term "community" can be quite broad and ambiguous. A more practical approach is to examine resilience from a geographically specific perspective, such as the neighbourhood, as demonstrated by Parés et al. (2018) and Platts-Fowler & Robinson (2016).

As the 'leefbaarometer' serves as a criterion for selecting neighbourhoods, as explained later in this report and given the connection to the resilient reports by Leidelmeijer et al. (2020), it is important in this section to delve into how these studies interpret the built environment. By looking at the studies discussed above, three indicators from the 'leefbaarometer' appear to be relevant: housing stock, the physical environment and amenities. These indicators encompass various environmental characteristics that collectively contribute to the indicator's total score. Not all characteristics, however, are relevant to this study. For example, the characteristic 'air quality' categorised under the physical environment, is not pertinent (Mandemakers, et al., 2021). Table 1 outlines the relevant characteristics for each indicator. Since neighbourhoods will be selected using the 'leefbaarometer' it is crucial to use these characteristics as a basis for defining the built environment and to align other research with these criteria.

At first sight, it may appear that the 'leefbaarometer' lacks numerous features necessary for making truly insightful statements about the built environment. This limitation will also be addressed in the limitations of this research. However, the availability of data allowing for statements about such characteristics at the neighbourhood level is quite limited. Consequently, the 'leefbaarometer' will still serve as the basis for selecting cases. Additionally, the characteristics that determine the quality of the housing stock, for instance, are associated with the attractiveness of buildings and housing maintenance. Thus, some characteristics provide more information than what might be expected at first glance.

Indicator	Environmental characteristics
Physical environment	<ul style="list-style-type: none"> - Function mixing (retail, industrial, offices) - Proximity green (amount of and distances to forests, open nature and green places) - Vacancy rate retail
Housing stock	<ul style="list-style-type: none"> - Living space* - Building height* - Vacancy rate housing** - Building period*** - Type of housing*
Amenities	<ul style="list-style-type: none"> - Distance to education, restaurants, cafés, culture (libraries, museums, theatres and cinema's), supermarkets and healthcare - Density of amenities (restaurants, cafés, shops for daily groceries)

*Characteristics associated with the judgement of the attractiveness of buildings in the neighbourhood

**Characteristics associated with the judgement of the maintenance of housing

***Characteristics associated with the judgement of the attractiveness of buildings in the neighbourhood and of the maintenance of housing

Table 1: Relevant indicators and characteristics (own work, derived from Mandemakers et al., 2021)

The resilience reports published by Leidelmeijer et al. (2020) and other publications from the research firm Circusvis provide insights into key focus areas for municipalities and housing associations to enhance resilience. In neighbourhoods facing significant challenges, initial efforts often involve reducing the concentration of vulnerable residents by offering housing to people with more favourable socio-economic positions and transforming the housing stock through demolition and new construction (the yellow and blue squares in figure 8). However, as problems become substantial, a combination of measures often becomes necessary. In addition, differentiating is not always feasible. Therefore, two additional or alternative approaches are suggested: focussing on the social aspect (the green square in figure 8) or addressing the built environment (the red square in figure 8). The built environment encompasses facilities and amenities, public spaces, greenery conditions, the quality of buildings and the state of current housing. In an instructional video demonstrating the use of the resilience maps, Jeroen Frissen explains that they have visited the 10 most and 10 least resilient neighbourhoods. Even without knowing the location, the built environment immediately revealed whether they were in a resilient neighbourhood or not. This illustrates that the state of the built environment is very important and things like the condition of the facades of a school truly matter (Leidelmeijer et al., 2020; Frissen & Windhausen, 2021; Aedes, 2023).

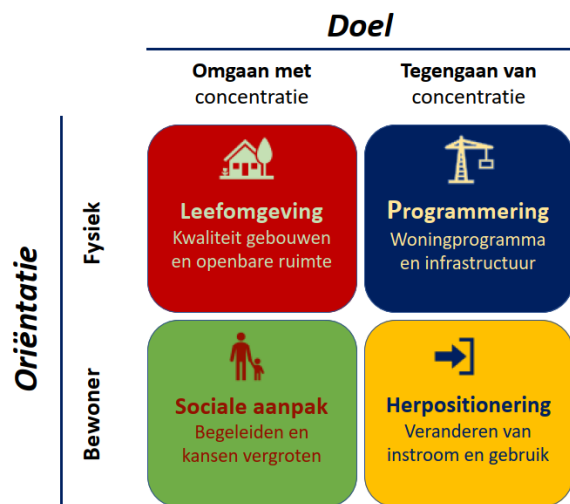


Figure 8: *Making resilient neighbourhoods* (Frissen & Windhausen, 2021)

The insights from sections 2.2, 2.3 and 2.4 can be used to develop a framework that illustrates the various relationships outlined in the literature. This framework includes only the most prevalent relationships or those anticipated to be observed in the selected neighbourhoods. Focussing on fewer relationships ensures that the framework remains manageable and allows for more meaningful insights. The framework is provided in section 2.7. As indicated in section 2.1, the next section will first provide a brief overview of how liveability was measured at the time and how social mixing can impact residents.

2.5 Liveability and social cohesion

Numerous studies, including those that critically assess the effects of the 40-neighbourhood program, have examined whether the liveability within neighbourhoods that were subject to regeneration policies has indeed improved. As previously mentioned, the results often show mixed conclusions (Ouwehand, 2018). These differences in findings partly have to do with the fact that there is no consensus about when improvements in liveability can be measured. Furthermore, measuring liveability is not always straightforward. In some studies, residents were asked to assess whether they perceived an improvement in liveability, making it a subjective evaluation. It often remains unclear in these studies how liveability was explained to the interviewees. In addition, other studies that do explain how they measure liveability differ in the indicators they use. For instance, some studies focus on safety indexes, while others consider factors like crime rates and cleanliness (Teernstra, 2015; Uitermark et al., 2007). Understanding how vulnerable neighbourhoods have been addressed in the past is very important. Similar to measuring liveability, diverse methods for assessing resilience could lead to varying results and the effects of interventions may only become apparent after a substantial period. Therefore, these lessons from past experiences should help to avoid prematurely halting interventions. Furthermore, it is important to carefully consider whether a subjective or objective assessment is more relevant. As demonstrated in section 2.3, understanding residents' perceptions of their environment can help to comprehend why interactions do or do not take place. Consequently, it may be the case that relationships cannot be fully understood when solely considering objective criteria but can be explained when incorporating subjective criteria.

Within the urban restructuring programs, policy makers have often argued that these more diverse living environments would foster interaction between new and existing residents. However, multiple studies have demonstrated that these interactions almost never occur, the contacts tend to be superficial and residents coexist alongside each other at best (Meij et al., 2021; Musterd & Ostendorf, 2001; Uitermark et al., 2007). Contrary to these positive presumptions, multiple scholars have warned for the undermining of social networks that provide vulnerable residents with important contacts and resources (Uitermark, 2003). The study by Meij et al. (2021) further indicates that long-term residents often feel alienated from their own neighbourhood and that increased liveability does not compensate for their lost contacts. Thus, social mixing could lead to reduced social cohesion. This highlights why it may be considered wiser to invest in the built environment rather than focusing on mixing neighbourhoods. Of course, various factors come into play and there are cases where mixing may seem the best solution. However, it is worth emphasising that it may have negative consequences for current residents and they may benefit more from other interventions.

2.6 Physical determinism

For the credibility of this research, it is important to acknowledge a phenomenon known as physical determinism. Therefore, this final section of the literature review describes the meaning of the term and its implications in social studies that explore the relationship between the built environment and human behaviour.

When making deterministic assumptions in social research, it implies that human behaviour is solely attributed to one class of events or conditions. When research establishes this relationship between the built environment and human behaviour, terms like environmental determinism and geographical determinism are often used (Franck, 1984; Hiller et al., 1986; Marmot, 2002). In her research, Franck (1984) uses architectural determinism to outline this connection between the built environment and human behaviour. She describes that researchers labelled as determinists often suggest that the built environment is the sole influencer of human behaviour or consider it the most crucial factor. Deterministic research, therefore, often faces criticism for neglecting social, cultural and economic factors.

Franck (1984) highlights a second shortcoming of deterministic studies, pointing out that they often assume a direct influence of the built environment on human behaviour. Instead, she underscores the importance of considering indirect effects and interactions effects. An indirect effect occurs when the independent variable (the built environment) influences the dependent variable (human behaviour) through an intervening variable. She gives an example of a study demonstrating that the number of apartments grouped together (the independent variable) influences the level of community attachment (the dependent variable) through people's feelings of safety (the intervening variable). In case of interaction effects, the combination of two or more independent variables has a specific impact on the dependent variable. For instance, the built environment might affect behaviour differently in one type of society compared to another, see figure 9 for a visualisation of intervening variables and interaction effects. However, despite emphasising the importance of acknowledging these indirect and interaction effects, Franck (1984) stresses that direct effects are still possible.

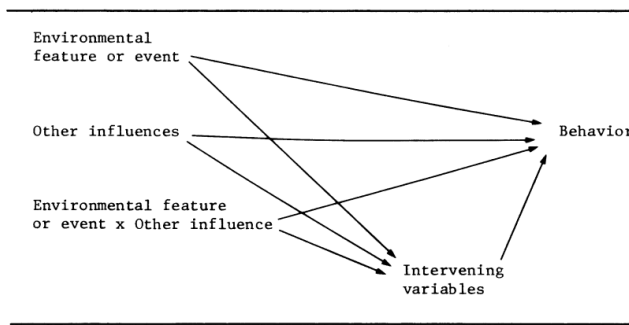


Figure 9: Intervening variables and interaction effects (Franck, 1984)

Despite the criticism of deterministic research, it is important to avoid a complete lack of research into the relationship between the built environment and human behaviour. Some researchers, fearing the determinist label, decide not to conduct any research in this field at all (Franck, 1984). Marmot (2002) further emphasises that architects often claim that their buildings influence various aspects of human behaviour, while this is almost never verified when they are actually realised. Of course, there are often financial reasons for this, but the less research is conducted, the more challenging it becomes to design and build according to proven methods (Hillier, 2008). Al-Alwan et al. (2022) therefore propose to adopt the probabilistic approach. According to this model, individuals can choose how to behave. However, certain behaviours are more probable than others due to various, sometimes intangible factors and specific characteristics of the built environment. Similar to Marmot (2022) and Hillier (2008), they argue that research into the influences of the built environment remains vital to achieve optimal design outcomes. As long as other non-physical social, cultural and economic factors are considered or at least acknowledged and weaknesses in precisely defining these factors are addressed when explaining the effects of the built environment, studies in this field can provide significant value (Franck, 1984).

2.7 Conceptual framework

Following the literature review, an initial conceptual framework can be established, see figure 10. While the framework may appear intricate, its essence lies in how the built environment facilitates the development and maintenance of social relationships and how perceived and actual nuisance and unsafety can be mitigated. The previous sections have demonstrated that enabling encounters and the ability to build and maintain a social network are important for the resilience of a neighbourhood. Various components of the built environment can directly contribute to enabling these contacts. This includes not only interactions between residents but also between residents and professional actors, as well as among various organisations active in a neighbourhood. Furthermore, resilience is assessed by observing how actual and perceived nuisance and unsafety evolve with an increase in vulnerable residents. Therefore, if the built environment can prevent feelings of unsafety and actual crime, it directly enhances resilience.

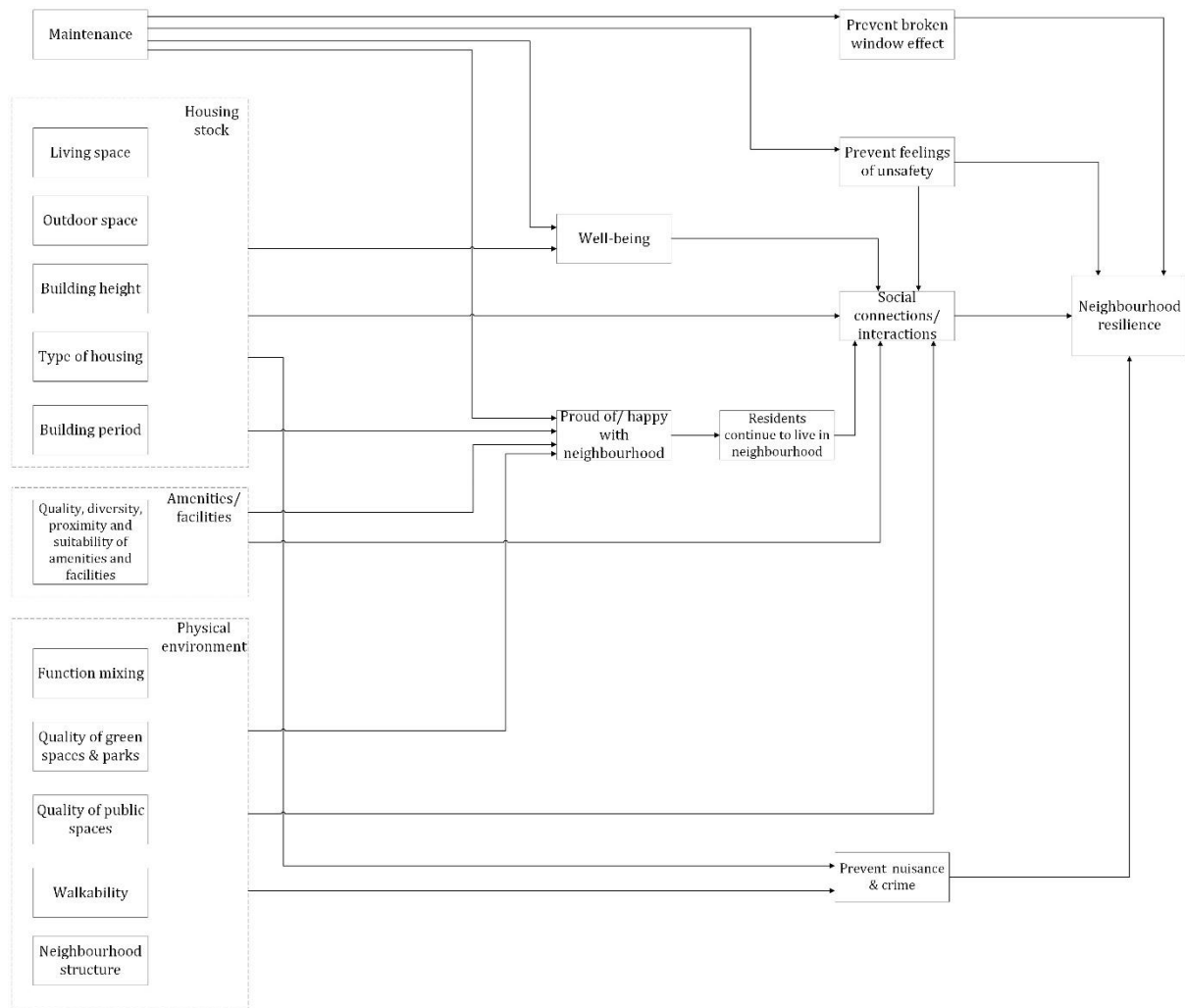


Figure 10: Initial conceptual framework (own work)

Chapter 3



3. Research method

This chapter delves into the research methodology and data analysis. To ensure comprehensive research results, a variety of research methods are employed. First of all, it is necessary to conduct a literature review, which has already been presented in detail in the previous chapter, but this chapter briefly accounts for how the data was collected. Following the literature review, cases are selected using quantitative research methods. Extensive data is gathered for these neighbourhoods to adequately prepare for the qualitative phase of the study. Within the chosen neighbourhoods, interviews are conducted with municipalities, housing associations and, where feasible, other institutions such as welfare organisations. These research methods are further explained in the subsequent paragraphs and are visualised in Figure 15. This research also uses hypotheses to establish stronger connections between the literature and the research data. These hypotheses are provided at the end of the chapter.

3.1 Type of study, methods and data collection

3.1.1 Literature study

Prior to conducting field research, it is necessary to understand certain concepts and resilience-related literature. This includes getting familiar with certain terms like liveability and the built environment. Additionally, it is essential to comprehend how resilience has evolved within the social sciences and what it means at the scale of the neighbourhood. Furthermore, it is important to understand how the built environment contributes to the development of social relationships and influences behaviour, given that resilience appears to emerge particularly through interpersonal connections.

To find relevant literature, Google Scholar and Scopus were used. Both Dutch and English search terms were used, as literature on Dutch cases and practices is sometimes written in Dutch. Additionally, several theses were reviewed. If these were related to the topic of this research, it was primarily assessed whether the references used could be relevant for this research. If a source seemed relevant, the abstract and main findings were read first. The selected sources for the literature review were thoroughly read and the references within these papers sometimes led to the discovery of additional relevant sources. Additionally, since the cases for this study are chosen through the resilience maps published on Aedes and the 'leefbaarometer', documents were accessed that further explain the functioning of these tools.

3.1.2 Selecting cases

Resilience can be assessed in several ways. As the literature review has shown, it involves a neighbourhood undergoing change and coping with it effectively. Many studies use regression models for this purpose, allowing resilient neighbourhoods to be identified by revealing those that perform better than expected. For the change this research focusses on, such a model is not needed, as so-called resilience maps have already been created. These maps show how a neighbourhood copes with an increasing concentration of vulnerable residents, with resilient neighbourhoods appearing blue on the maps. In these areas, an increasing number of vulnerable residents is accompanied by a decrease in nuisance and unsafety. Dark blue areas experience many liveability problems, while light blue areas experience fewer liveability problems. Yellow areas are also

considered resilient in this research. These neighbourhoods are still undergoing negative change (an increase in vulnerable residents), yet nuisance and unsafety are not increasing. Within the grey areas, no statements can be made about resilience, as there are no negative changes taking place. The number of vulnerable residents here remains the same or even decreases. As an example, the resilience map of Tilburg is shown in figure 11.

In the Netherlands, the terms ‘neighbourhood’ and ‘district’ are often used interchangeably. However, for this research, a conscious choice was made to focus on the neighbourhood level. This decision stems from the fact that a neighbourhood is an entity actually experienced by residents, whereas a district is more of an administrative demarcation (Wijkwijzer, 2023). Additionally, neighbourhood boundaries are frequently determined by building period or socio-economic composition (CBS, 2023). By looking at neighbourhood level, it is therefore easier to define characteristics and keep them the same within different neighbourhoods. The neighbourhood boundaries are upheld in accordance with the ‘leefbaarometer’.

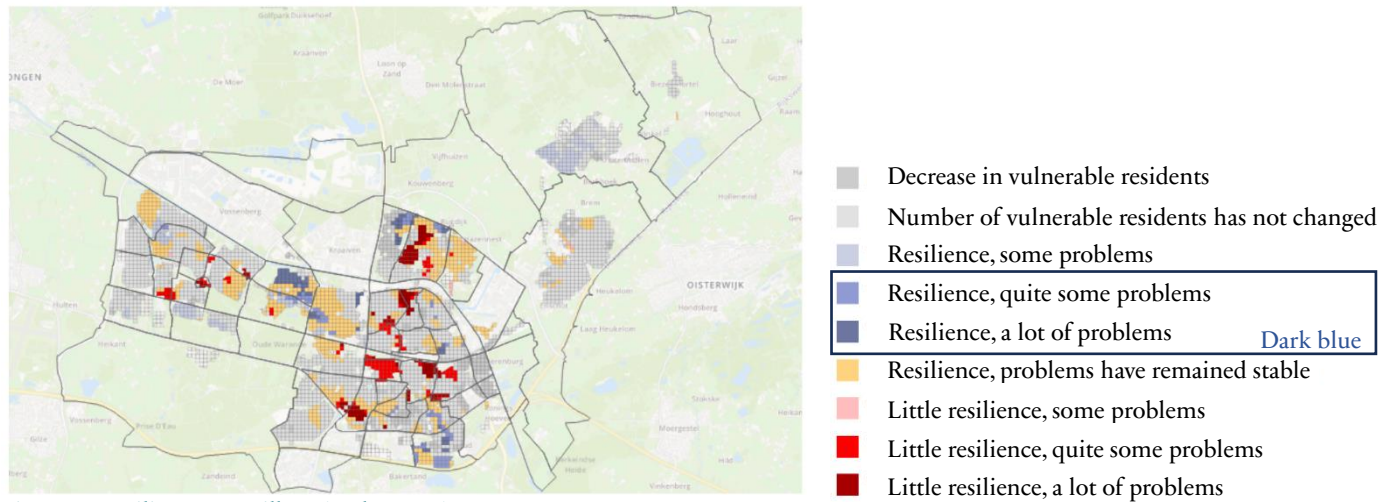


Figure 11: Resilience map Tilburg (Aedes, 2020)

For this study, neighbourhoods are selected that are largely coloured blue or yellow, with a focus on those that also exhibit more dark blue areas (as indicated in figure 11). A total of two resilient neighbourhoods are selected. The presence of dark blue areas indicates a higher concentration of problems in a neighbourhood. It is precisely in these areas that valuable lessons can be learned: the greater the challenges a neighbourhood faces, the more remarkable it is that these problems decrease despite an increase in vulnerable residents.

Within these neighbourhoods, the influence of the built environment on resilience is investigated. In order to demonstrate or at least make it plausible that it is indeed the built environment improving resilience, the ‘leefbaarometer’ is used. This tool evaluates amenities, the physical environment and the housing stock in a neighbourhood compared to the national average. In the two selected neighbourhoods, the three indicators should be close to or preferably even higher than the national average. This implies that the neighbourhood should not significantly deviate from the average. As long as the bars are coloured green, the deviation from the average is considered negligible. An example of the indicators is provided in figure 12. This figure shows that the physical environment and amenities score well enough. However, the bar representing the housing stock is red and therefore this neighbourhood should not be selected. All bars should be

green in the three available time periods of the ‘leefbaarometer’: 2014, 2018 and 2020. This is essential, because the resilience maps show how liveability has developed between 2014 and 2020. Therefore, if the built environment has indeed made a difference, it should consistently score positively throughout the entire period.

Two other criteria also play an important role in selecting neighbourhoods. City centres are excluded from consideration due to the different nature of nuisance and unsafety in these areas, which are typically connected with its nightlife. These areas differ significantly from other parts of the city and are therefore not considered representative. Furthermore, it is essential to select neighbourhoods that have a comparable proportion of social housing. The research by Leidelmeijer et al. (2020) shows that problems in a neighbourhood tend to increase when the percentage of social housing exceeds 45%. Therefore, the selected neighbourhoods should have a proportion of at least 45% social housing. All criteria are summarised in bullet points below.

- The selected neighbourhoods should be largely coloured blue or yellow
- The neighbourhoods should also have dark blue areas
- The three indicators of the ‘leefbaarometer’ should be close to the national average
- City centres are excluded from consideration
- At least 45% social housing

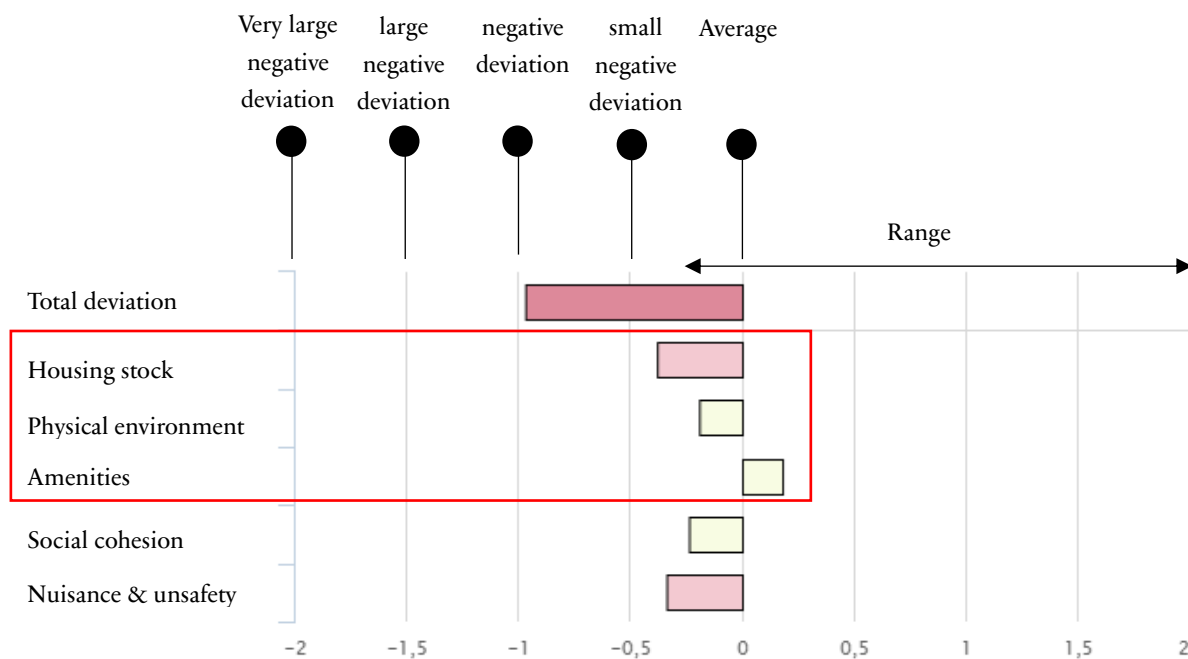


Figure 12: The three indicators and their range (leefbaarometer, 2020)

Using these criteria, a long list of approximately 25 neighbourhoods was compiled. Nearly 50 towns were assessed, taking into consideration the researcher’s place of residence. Given the impracticality of, for instance, driving three hours multiple times for a single interview, only cities in relatively close proximity were included. Subsequently, the construction periods of the selected neighbourhoods were considered. It is essential that the buildings date from similar construction periods, in order to keep the neighbourhoods comparable. Otherwise, it could become challenging to draw unambiguous conclusions if, for example, a pre-war neighbourhood is compared with a post-war neighbourhood. It was therefore examined during which time periods the selected

neighbourhoods were constructed, revealing that many neighbourhoods were built between 1950 and 1970 and between 1970 and 1990.

Upon further analysis, neighbourhoods between 1970 and 1990 appeared to be more suitable. Generally, these neighbourhoods had undergone significant improvements in terms of liveability and the built environment received favourable scores. Consequently, a final selection was made of neighbourhoods within this period. Nevertheless, this construction period remains quite broad. Typically, a distinction is made between neighbourhoods built between 1970 and 1980 and those between 1980 and 1990. Ideally, neighbourhoods would be selected from a specific construction period, but given the chosen criteria, too few neighbourhoods remained that are predominantly from one construction period. In addition, many neighbourhoods feature dwellings from both periods. It was therefore decided to maintain this broad timeframe. However, the two neighbourhoods that were eventually chosen, were actually constructed within a similar timeframe. One is located in the Hague and the other is in Zoetermeer (see figure 13 and 14). Both are categorised as so called ‘bloemkoolwijken’ and are predominantly comprised of low-rise and terraced houses. Construction in Buytenwegh, Zoetermeer began slightly earlier, in 1974, while in Nieuw Waldeck, The Hague, it started in 1977. Consequently, there are more houses in Nieuw Waldeck built in the early 1980s. Nevertheless, the neighbourhoods share a very similar construction period. The two neighbourhoods comply with all criteria and are reasonably close to the researcher’s place of residence. Proximity was an important criterion in narrowing down the selection from six suitable neighbourhoods to two, as it can significantly save time.

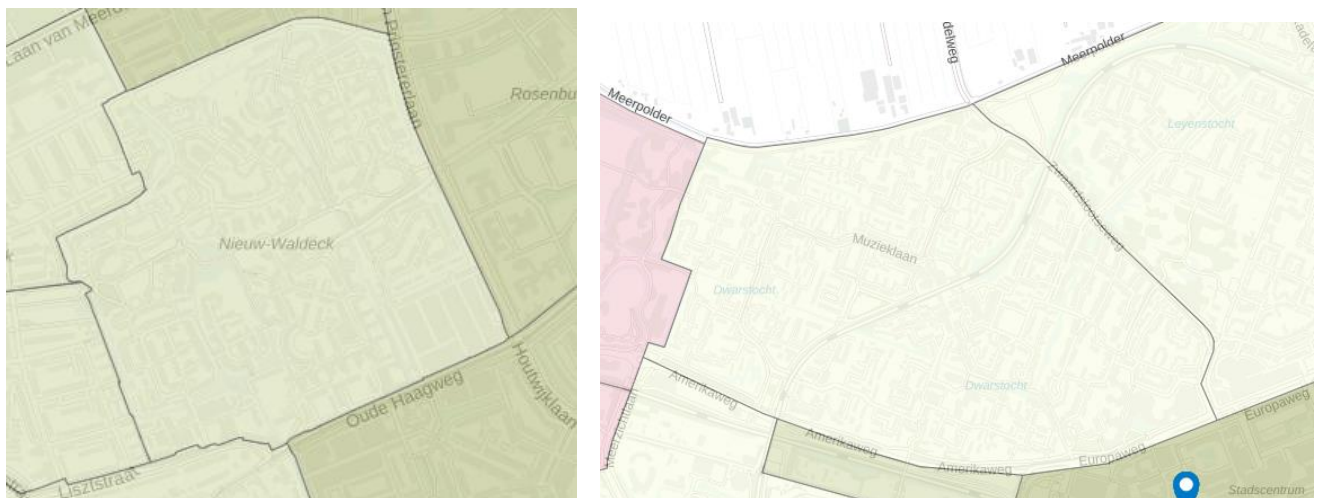


Figure 13: Nieuw-Waldeck, The Hague (left) and Buytenwegh, Zoetermeer (right), (leefbaarometer, 2020)

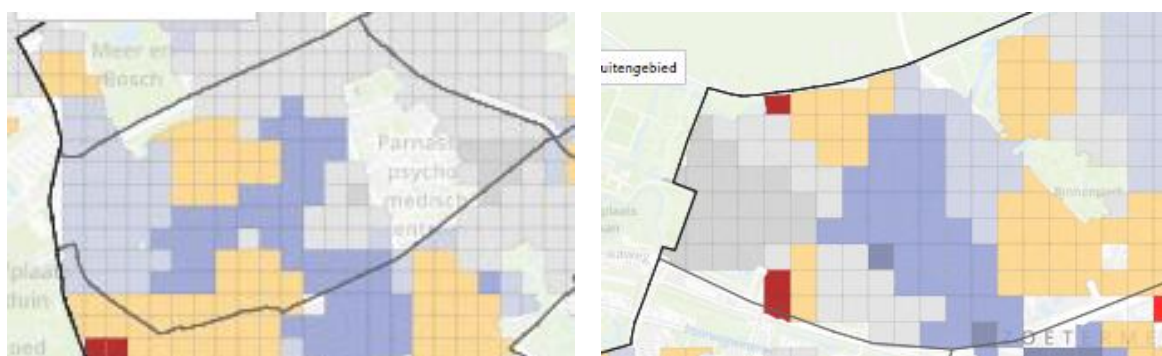


Figure 14: Resilience maps Nieuw-Waldeck and Buytenwegh (Aedes, 2020)

3.1.3 Desk-research: study cases

As much information as possible is gathered for the two selected neighbourhoods. This information may include city-wide documents containing important information about the neighbourhood in question or documents written specifically for that neighbourhood, such as a neighbourhood plan. Both recent and older documents are valuable: recent ones are especially useful for understanding the current state of the built environment, while older documents can provide insights into the neighbourhoods' historical development. These older documents might describe the original distribution of low- and high-rise structures, the original layout of public spaces and other essential details about the architectural composition. Additionally, webinars or documentaries can offer further insights into the characteristics and dynamics of these neighbourhoods.

3.1.4 In depth interviews

The most important data for this research is collected with semi-structured interviews. This technique ensures that questions align with the predetermined topics, while also allowing for tailored inquiries. It is essential to discuss which elements of the built environment are most influential according to the interviewees. Consequently, there is a need for follow-up questions that cannot be predetermined. However, an entirely unstructured approach would complicate the comparison of interview findings. Therefore, a semi-structured method seems most appropriate.

The interviews take place at locations that are most convenient for the interviewees, with a preference for face-to-face interviews. Research indicates that phone calls or interviews via Teams are often shorter and of lower quality (Bryman, 2016). The interviews are conducted with employees from housing associations, municipalities and, where possible, other institutions like welfare organisations. It is probably easier to get in contact with these people rather than, for example, residents' groups. Despite these potential challenges, efforts are still made to engage with residents, as their perspective can offer valuable insights into their usage of the built environment. It is preferred to organise focus groups with residents if it turns out to be relatively straightforward. Otherwise, more creative alternatives, such as using a short questionnaire distributed at, for instance, a community centre, might provide a solution.

It is not precisely known in advance how many interviews will be conducted. The initial contacts that are established, might refer to other important stakeholders. The aim is to conduct a minimum of six interviews per neighbourhood (excluding resident participation). This would result in a total of 12 interviews, but depending on the information each individual can provide, more or fewer interviews may be necessary.

3.1.5 Validate findings

After interpreting the results, describing the findings and formulating recommendations, they are validated with Jeroen Frissen, one of the authors of the resilience reports published on Aedes. By discussing the results with him, it can be determined whether the research results are valuable, where more nuance is needed, or if he finds the results very surprising or does not understand them. Of course, the conclusions and recommendations cannot be completely changed if Jeroen Frissen has a different view on them, but for the validity of the research, it will then be clearly outlined how the expert's insights differ from my own.

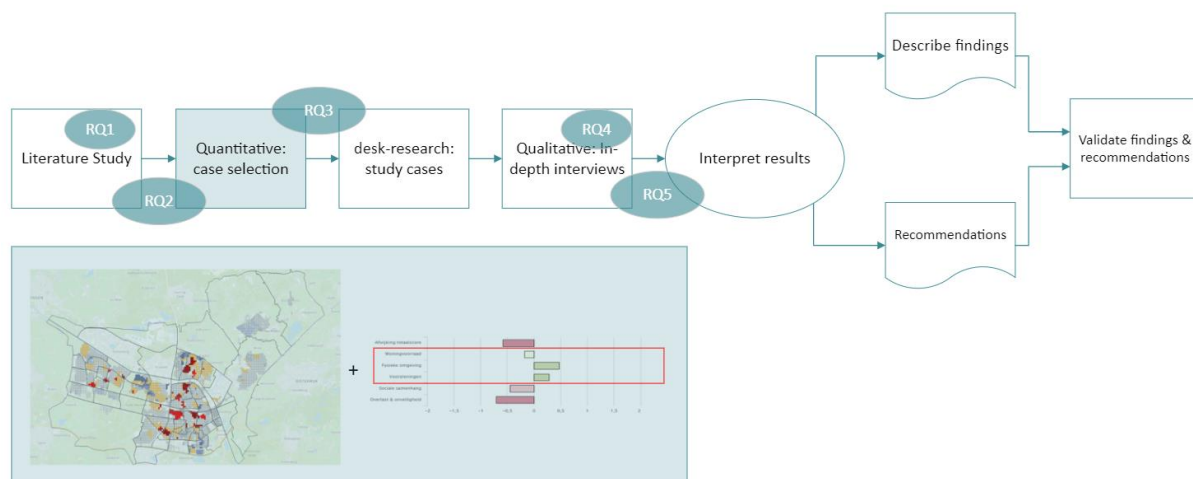


Figure 15: Research method (own work)

3.2 Data analysis

3.2.1 Transcribing and coding

The analysis of the quantitative data takes place prior to the field research. As outlined in the previous section, cases are selected with quantitative data from the 'leefbaarometer' and the resilience maps available on Aedes. The qualitative data is generated by conducting interviews, which are recorded and transcribed. These transcripts are coded with Atlas.ti. Both deductive and inductive approaches are employed for this coding process. The deductive approach involves closed coding. The predetermined themes by the literature review and the associated conceptual framework are used to formulate interview questions and define codes. At the same time, themes that were not defined beforehand may emerge during the interviews. These could be themes that have not previously been addressed in the literature. New themes could then be derived from the data, which means that an inductive approach is followed. By employing both methods, this research will be complementary to prior research, while allowing interviewees to express what they consider important (Burnard et al., 2008). Efforts are made to transcribe and code each interview before the next interview takes place. New themes identified in one interview can then be used for the next interview.

3.2.2 hypotheses

Usually, qualitative research does not establish hypotheses. However, linking the literature to the research findings can be challenging. By making certain assumptions, it becomes possible to specifically identify whether elements of the literature are reflected in the research data or if an opposite effect is observed. This process also facilitates the effective structuring of the data. The conceptual framework has already been presented in Chapter 2. The various relationships presented in this framework are all derived from the literature. The framework is shown again in figure 16, with the hypotheses also included. This specifies the relationships on which this research focusses. The relationships that are not investigated are shaded in light grey. The subsequent paragraphs elaborate on the four hypotheses.

Hypothesis 1: Resilience appears to be particularly evident when there is frequent interaction between people, trust among residents and effective maintenance of relationships, including communication between residents and experts, as well as among experts themselves. Certain facilities, amenities and features of public spaces can directly facilitate greater interaction among people. Hypothesis 1 therefore assumes that the facilities, amenities and elements of public spaces present in both neighbourhoods contribute to the social contacts one has and these social contacts, in turn, contribute to the resilience of the neighbourhood. Here, it is also suggested that diversity and proximity are important factors, as mentioned by several authors, such as Francis et al. (2012) and Mazumdar et al. (2018).

Hypothesis 2: While it may appear to be a more indirect relationship, several authors, like Mandemakers et al. (2021) and Parés et al. (2018), suggest that when individuals value their environment, they tend to stay in that neighbourhood for longer periods, thereby reducing the likelihood of losing social contacts. For instance, the maintenance of a neighbourhood and certain facilities can play a significant role. When a neighbourhood is well-maintained and residents appreciate the various facilities or certain aspects of the public space, this can contribute to their inclination to stay there. Here, residents do not even have to use these facilities themselves. Mandemakers et al. (2021) also demonstrate that building height and housing type matter, but these aspects are challenging to study in this research. This hypothesis therefore focuses on facilities and public spaces and assumes that appreciation of the living environment contributes to residents' length of residence, thereby preventing the loss of contacts. Of course, the opposite may also apply.

Hypothesis 3: Kenrick et al. (2010) emphasise the importance of well-being as a prerequisite for expanding one's social network. A person's residence can significantly influence their well-being. For example, experiencing significant nuisances, such as a combination of a noisy dwelling and loud neighbours, can greatly impact one's well-being. Living in a home of inadequate quality can therefore affect the ability to maintain a social network. This hypothesis assumes that the condition of one's dwelling impacts the maintenance of social contacts. A house of sufficient quality can contribute to social contacts, while a poor home can actually lead to fewer contacts.

Hypothesis 4: Maintenance also plays a crucial role in ensuring safety. As indicated in figure 1 and its accompanying explanation, resilience is determined by measuring the development of nuisance and unsafety, encompassing both actual and perceived nuisance and unsafety. Research by Armitage (2017) and MacDonald (2015), demonstrates that poor maintenance can instil feelings of unsafety or act as a catalyst for more serious forms of nuisance or even crime, a phenomenon known as the broken window effect. The built environment then has a negative impact on resilience as liveability declines. Additionally, certain facilities and the design of public spaces have been linked to higher crime rates, for instance, shopping centres and bus stops are described as attractive locations for undesirable activities (MacDonald, 2015; Sohn, 2016; Matthews et al., 2000). Hypothesis 4 suggests a relationship between maintenance and unsafety and further assumes that certain facilities or elements in the physical environment may indeed serve as meeting points for undesirable behaviour, potentially undermining neighbourhood resilience.

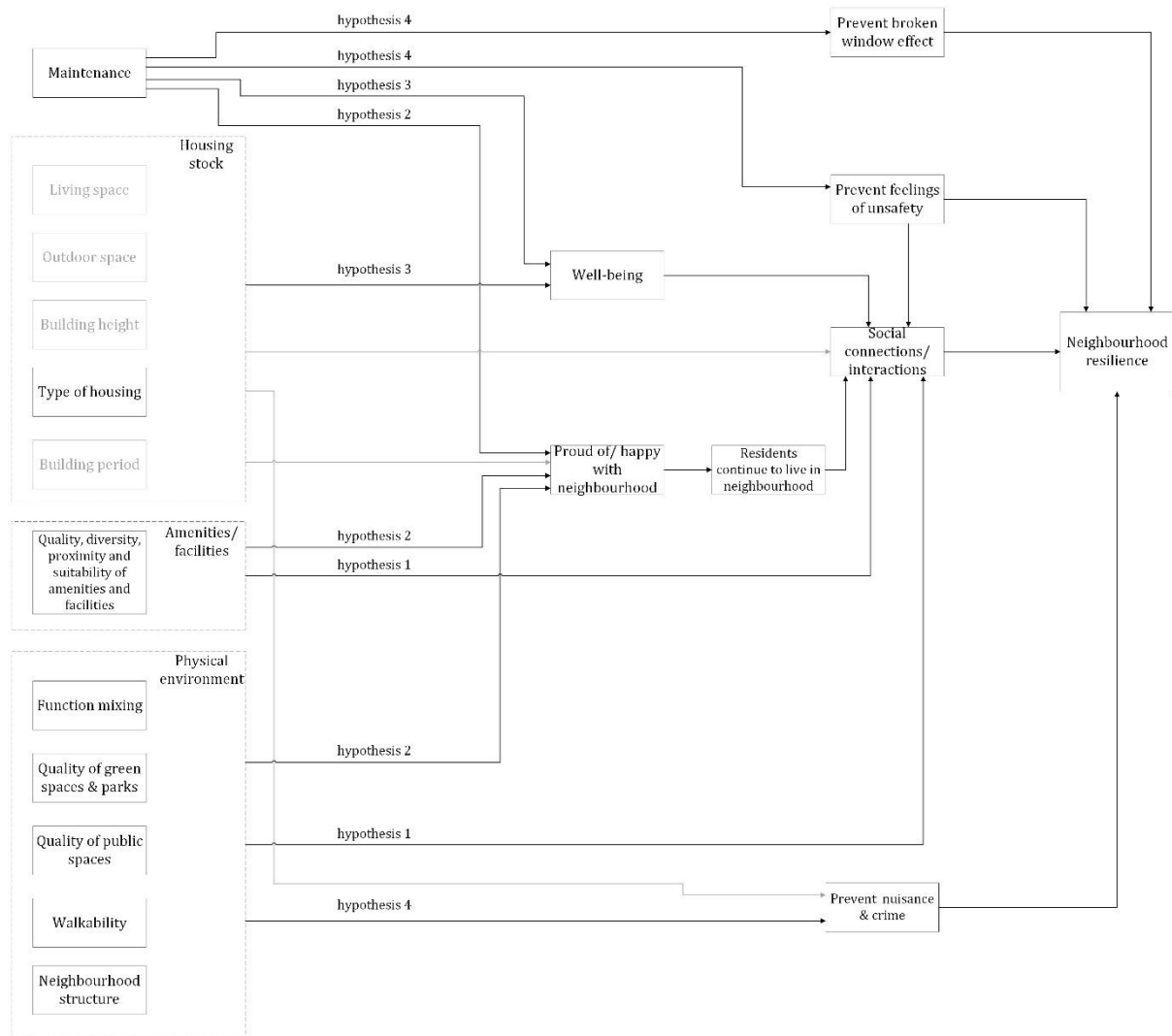


Figure 16: Conceptual framework with hypotheses (own work)

Chapter 4



4. Research findings

This chapter presents the research findings. Firstly, the findings from the case studies are described to provide a comprehensive understanding of the current situations in the two neighbourhoods. This is followed by the results of the interviews, organised according to the hypotheses outlined in Chapter 3. First, Nieuw Waldeck is discussed in detail, followed by Buytenwegh. Subsequently, Section 4.3 examines the conclusions that can be drawn and whether the hypotheses can be confirmed. There are quite a few differences between the neighbourhoods and some aspects require additional explanation. This is briefly discussed in section 4.4.

4.1 Case description

The following paragraphs provide insight into the two selected cases, describing their general characteristics, recent policy documents and historical records. This information aids in understanding which elements of the neighbourhoods have been positively regarded for some time and where problems lie, including their duration and the efforts made to address them. The primary aim of this research is to identify positive aspects of the built environment in resilient neighbourhoods. However, by understanding the problems that have affected the neighbourhoods for extended periods, it is possible to delve into how these issues were addressed and whether the built environment played a role. Simultaneously, it is possible that certain issues remain unresolved, which is important to note as it indicates areas where efforts to improve the neighbourhood may have fallen short.

4.1.1 Nieuw Waldeck

The first relevant document consulted for Nieuw Waldeck was published in 1999. Nieuw Waldeck is described in this neighbourhood plan as a typical 'bloemkoolwijk'. The neighbourhood features many winding streets and courtyards and was built between 1977 and 1982 on former horticultural land, traces of this character can still be found today. The vision was to create a neighbourhood with a rural atmosphere and a lot of diversity. Consequently, cars were mostly excluded from the neighbourhood and many carports were built to alleviate on-street parking. To achieve diversity, each of the 33 clusters was designed by a different architect. However, realising this village-like character proved to be costly, necessitating a high building density but with a maximum height of five stories. Some of the high costs, however, could be absorbed by subsidies from the state. At the time, many parts of The Hague were undergoing renewal. Therefore, the state provided subsidies on the condition that residents, mainly from the Schilderswijk would be housed in Nieuw Waldeck (Gemeente Den Haag, 1999; Stichting wijkberaad Nieuw Waldeck, n.d.).

This neighbourhood plan was created at that time to outline measures aimed at preventing future (liveability) issues and articulating the future aspirations of the neighbourhood. The primary focus was on ensuring continued accessibility to all socio-economic groups. On one hand, there was a recognition that social housing was becoming unaffordable for the lowest income groups. At the same time, there was the concern that higher and middle-income residents might leave the area due to insufficient availability of owner-occupied housing. Thus, it was deemed essential to introduce more housing options for higher incomes while safeguarding affordable housing for lower-income groups. Additionally, the plan stressed the importance of the physical environment, particularly the

upkeep of public spaces, to safeguard liveability in this densely populated area. While major issues such as green space maintenance were not prevalent at the time, the plan underscored the necessity of proactive intervention to prevent future problems, particularly in light of reduced funding for maintenance compared to when the neighbourhood was completed (Gemeente Den Haag, 1999).

What did pose some concern was the presence of loitering youth. There was not a designated space for them in the neighbourhood and the vacant carports provided an attractive spot for them to gather. Many carports remained unoccupied as residents were unwilling to pay rent for them. While these youths typically were not engaged in criminal activities, their presence often led residents to feel uneasy. Areas of the neighbourhood that were poorly maintained, lacked adequate street lighting and served as gathering spots for youth contributed to this sense of unsafety among residents. Neglected spots frequently became popular meeting places for young people. Therefore, it was deemed crucial to enhance maintenance in several areas and address issues such as graffiti. There was also a shared intention to address these concerns collaboratively. It was not always clear, for instance, who owned certain pieces of public space, resulting in some areas being neglected entirely. It was therefore felt that a joint approach was necessary (Gemeente Den Haag, 1999).

From this document, it can be concluded that attention was given to the neighbourhood in 2000 to address its weaknesses. Improving the neighbourhood's quality was deemed essential to prevent residents from leaving Nieuw Waldeck. It was also recognised that there were limited opportunities for young people, children and other target groups, along with a scarcity of meeting places. Additionally, there were notable disparities among different age groups. Consequently, the document mentioned the intention to establish a community centre to facilitate welfare work and strengthen community bonds. This community centre has indeed been realised (Gemeente Den Haag, 1999).

After reading subsequent documents published from 2010 and reviewing the neighbourhood council's Facebook page and website, it becomes evident that the municipality has failed to address maintenance issues promptly. Compared to surrounding neighbourhoods, Nieuw Waldeck scores poorly in many aspects and residents feel that little has been done to improve their living environment for years. They particularly note the increasing difficulty in walking around the neighbourhood due to poor maintenance. Many residents express that Nieuw Waldeck would have been a more pleasant neighbourhood if maintenance had been better managed. Residents are generally more satisfied with their homes, with a satisfaction rate of 75% reported in 2022. However, there is a growing concern about an increase in residents with mental health issues. Despite indications in 2000 of a need for housing in the more expensive segment, the neighbourhood is now characterised by numerous low-cost social housing units, some of which accommodate individuals with mental health backgrounds (Gemeente Den Haag, 2016; Gemeente Den Haag, 2022).

Residents also describe that there is still a shortage of spaces for young people to socialise, leading to complaints about noise, litter and nuisance in certain areas such as 'the blue playground' and the former bus loop. According to residents, they urinate on the blue object and the former bus loop is also used for criminal activities such as drug dealing and usage. However, residents do mention that young people also gather at the neighbourhood centre, 'De Geest', which was one of the aims of establishing the community centre, indicating its success. Furthermore, residents express satisfaction with the numerous play facilities, the petting zoo, the library and the community garden. Nonetheless, they do mention that the development of playgrounds does not always match

with their preferences. For example, ropes have been removed from a specific play area and the blue object has been painted a different colour instead of being replaced (see figure 17, 18 and 19 for some impressions). Consequently, although many play facilities have been added since 2000, they do not always align with residents' desires (Bureau Graswortel, 2014; Gemeente Den Haag, 2016; Gemeente Den Haag, 2022).

The preceding paragraphs illustrate that Nieuw Waldeck is a neighbourhood characterised by many contrasts. On one hand, residents observe their neighbourhood deteriorating. In 2016, Nieuw Waldeck was designated as a 'kantelwijk'. Many residents fear that without significant changes, Nieuw Waldeck will continue to deteriorate and eventually be labelled as a deprived neighbourhood. On the other hand, residents express appreciation for the green surroundings and a strong attachment to the neighbourhood and despite an increase in nuisance-causing residents, residents note that neighbourly contact is often positive (Gemeente Den Haag, 2016; Stichting wijkberaad Nieuw Waldeck, n.d.).



Figure 17: Red ropes (Foursquare, n.d.)



Figure 18: blue playground (Van Boggelen, 2021)



Figure 19: Community centre (NWLDCK, n.d.)

4.1.2 Buytenwegh

A variety of documents were also consulted for Buytenwegh. The earliest available document, which extensively discusses Buytenwegh's development, dates back to 2010. This document is very similar to the neighbourhood plan for Nieuw Waldeck from 1999. It outlines the necessary steps to ensure Buytenwegh remains liveable in the years to come. Ideally, the municipality aimed not only to sustain its liveability but also to transform it into a desirable neighbourhood where many would choose to reside. Buytenwegh is characterised by a particular type of housing. Development of the area began in 1972 with designs that were considered very experimental and innovative at the time. The neighbourhood was designed without high-rise buildings, but it was still important to create a high density while maintaining a pleasant living environment. The deck houses were seen as a successful solution to achieve this balance. Parking was situated at ground level, with residential decks constructed above, fostering safe environments for children to play and communities to form. Furthermore, by connecting the decks, safe pathways for walking and cycling were created (Barzilay & Ferwerda, 2019; Gemeente Zoetermeer, 2010; Rotterdamse Academie van Bouwkunst, 2021).

However, the deck houses were found to have an adverse effect. As early as the mid-1980s, liveability in the area was under pressure, as mentioned in this neighbourhood development vision. The document highlights that individual problems among residents often resulted in neglect of their surroundings and nuisance for their neighbours due to a lack of consideration. The diverse cultural backgrounds also contributed to this perceived nuisance. Additionally, the car parks caused feelings of unsafety and the document describes the decks and the car parks as being very polluted. The vision document further emphasises the necessity for residents to rediscover positive experiences with the decks. Several interventions were proposed for this purpose. Primarily, large-scale renovations appeared to be considered to address these liveability issues. Major renovations took place in 1995 and 1998 and around 2010, significant plans were made to address the decks once again. However, the specifics of these interventions and how they would ensure desired outcomes remained unclear. For example, while it mentions that the paintwork and lighting of the car parks had been addressed, it does not specify to what extent these measures were expected to alleviate the experienced nuisances (Gemeente Zoetermeer, 2010).

In addition to this focus on housing, the document outlines the importance of creating more spaces for community gatherings to reduce misunderstandings among residents. It suggests exploring how existing spaces can be repurposed for social welfare activities. In line with this, it proposes considering the transformation of a cluster of buildings into an activation centre at a specific location. It was deemed crucial that this location would have an inviting character to encourage residents to visit. Moreover, it advocates for establishing an integrated network to enable different organisations to collectively provide residents with necessary services. It was also considered important to develop more spaces for young people and children. Many teenagers and young adults expressed dissatisfaction with their neighbourhood due to the lack of suitable areas for their age group. As a result, they gathered in various locations within the neighbourhood, which contributed to a sense of unsafety among many residents. Although a youth centre existed, it failed to adequately meet their needs. Furthermore, there was a shortage of playgrounds for children and when existing ones were removed, they were not replaced (Gemeente Zoetermeer, 2010; Gemeente Zoetermeer 2012).

Later documents mainly focus on addressing youth nuisance. Around 2012, there was a sharp increase in feelings of unsafety among residents. A criminal youth group was active that committed numerous burglaries and engaged in other criminal activities. Housing nuisance and poor maintenance of homes and the surrounding area were also cited as contributing factors to the decline in liveability. A neighbourhood safety approach was therefore developed to mitigate the criminal activities of the youth group and reduce them to merely a nuisance-causing group. In 2018, it was reported that this criminal group was indeed dissolved, but other issues persisted. A different approach was therefore employed, deploying youth workers, among others, to prevent nuisance causing youths from reverting to criminal behaviour. Residents expressed concerns at the time about the dilution of the approach. It appears that the intensity of the approach did decrease as safety statistics improved (Andersson Elffers Felix, 2018).

In Buytenwegh, several ongoing issues are apparent. The housing type, combined with insufficient maintenance, has resulted in unsafe areas in many places, which criminal youths have taken advantage of. Although plans were made to address this in 2010 and 2012, it was also noted then that numerous challenges existed. For instance, the shared ownership of the deck houses creates complex situations regarding responsibility for maintenance and joint renovation.

Additionally, it is noted that the neighbourhood is abundant in green spaces and water features, but its layout does not allow for optimal utilisation. For example, there is a lack of proper connections between the houses and the water. There also appears to be a shortage of social facilities and many amenities such as the activation centre were actually never realised. At the time, there was no intention to improve the neighbourhood through large-scale demolition and reconstruction, but the planned interventions to enhance its liveability and attractiveness have either not been implemented or have failed to yield the desired results (Gemeente Zoetermeer, 2010; Newtown institute, n.d.).

Meanwhile the municipality of Zoetermeer has outlined a vision for 2040. This vision document describes Zoetermeer as a city caught in a downward spiral, with several interrelated mechanisms at play. To reverse this trend, each mechanism much undergo change. One such mechanism is the declining residential appeal, which subsequently affects the mechanism socio-economic strength. Residents with a higher socio-economic position are leaving Zoetermeer due to this decline in residential appeal. Efforts will be concentrated on addressing this issue in three vulnerable neighbourhoods, including Buytenwegh. The emphasis is on large-scale renovations, demolition and new construction. Unlike in 2010, when neighbourhood restructuring was not considered, it now appears to be a viable option (Gemeente Zoetermeer, 2022). Figure 20, 21 and 22 provide some impressions of the neighbourhood.



Figure 20: Shopping centre (In de buurt, n.d.)



Figure 21: Deck housing (Architectuur punt Zoetermeer, n.d.)



Figure 22: Community centre Buytenrode (Zoetermeer actief, 2024)

4.2 Findings from the interviews

The following paragraphs describe the findings from the interviews, which are primarily derived from interviews with experts who provided a comprehensive overview of the larger context. Additionally, interviews with residents were conducted, but they mainly confirmed the insights from the experts. Several hypotheses were formulated in the preceding chapter. Therefore, the following paragraphs elaborate on the results per hypothesis.

4.2.1 Nieuw Waldeck

Hypothesis 1: From the interviews, there appear to be several initiatives in Nieuw Waldeck that bring residents together. These may include smaller initiatives, such as the joint renovation of green spaces in the neighbourhood, or larger organisations that effectively reach a broader target group with appropriate facilities. The following paragraphs will therefore elaborate on what

residents appreciate according to the interviewees, what seems to have had a tangible impact and also areas for improvement or aspects where the impact is not entirely clear.

Community Centre

The community centre serves a vital role within the neighbourhood. It is primarily managed by a welfare organisation known as 'Wijkz'. In Nieuw Waldeck, the community centre is staffed by a community worker, a children's worker and a youth worker. The children's and youth workers play particularly significant roles in the neighbourhood. They engage with children through all kinds of activities and children have open access to the community centre at various times, providing opportunities for games and other recreational activities. The children's worker focuses on early engagement with these children and organises a variety of activities tailored to their needs. This includes forming smaller groups to cater to specific interests or needs. These programmes for children aim to create a supportive network around each child from a young age. According to several interviewees, it is crucial for them to foster strong relationships among themselves and know where to seek help when needed. Simultaneously, efforts are made to engage with all parents, many of whom may be vulnerable. Engaging with children early on facilitates easier communication with parents. There is a sincere endeavour to establish effective communication channels with parents, ensuring they feel comfortable reaching out for assistance or guidance.

As the children grow older, they transition to youth work. By then, there is usually an established relationship with these young individuals, enabling the youth worker to stay well-informed about their circumstances. At this stage, particular attention is paid to identifying gaps in their social networks, as these gaps are often the beginning of other issues. Ultimately, the focus remains on fostering positive relationships among young people. In line with this, they can spend two evenings a week at the community centre, where they have their designated space. The community centre serves as a valuable training ground, facilitating observation of interactions between children and teenagers. Interventions can be implemented when necessary, allowing children to learn essential social skills in a safe environment. Furthermore, education on acceptance is provided. For instance, in cases where vulnerable individuals with autism reside in the neighbourhood, explanations are offered regarding their behaviour and the importance of respecting their space. Additionally, the community centre serves as a place to stay for young people during significant events. For example, following the riots sparked by the murder of Mitch Henriquez, many teenagers were kept inside the community centre to prevent them from becoming involved in the turmoil.

An important activity familiar to many people in Nieuw Waldeck is the initiative known as 'Young Cooks for Old'. This initiative was initially established to foster connections between the youth and the elderly in the neighbourhood and it aimed to promote greater understanding between generations. In the end, this initiative proved to be highly valuable. Not only do young people acquire new skills, but they also engage with one another and with the youth workers. Meanwhile, the elderly, often widowers, have been able to reestablish networks and the two generations have grown to understand each other better. Due to the connections formed through this program, there is greater mutual acceptance when the two groups encounter each other in other locations.

There are various other activities hosted at the community centre, including programs tailored for the elderly, zumba classes and a weekly mothers' club meeting. Many such initiatives

are initially guided by the community worker, after which efforts are gradually made to make the groups more independent. For example, the mothers' group is now capable of independently applying for subsidies. One notable drawback is the limited drop-in accessibility of the centre. Suggestions have been made, such as adding a terrace, to enhance accessibility. Additionally, attendance at events like the Monday coffee hour remains low. Due to the absence of amenities such as a nearby shopping centre, it is more difficult to engage with people and encourage them to visit the community centre. A while ago, the Red Cross distributed breakfast bags, which attracted many people to the community centre. Unfortunately, such initiatives are often temporary due to budget constraints faced by each organisation. Consequently, actions like these cease, despite their positive reception among the community.

Not only is contact between residents important, but residents should also be able to engage with experts and there should be easy communication among experts. As the previous paragraphs have illustrated, the community centre facilitates contact between the welfare work and different target groups. Additionally, it plays a role in facilitating contact between the youth worker and the neighbourhood police officer, for instance. With years of established communication, they remained well-informed about youth-related matters, allowing the neighbourhood police officer to easily communicate concerns to the youth worker and vice versa. Meetings among various professionals and local residents were also held at the community centre, but it became apparent that the priorities of local residents differed from those of professionals, leading to the discontinuation of these meetings. However, several interviewees have suggested that organising meetings exclusively among professionals should be reinstated.

Also, in times of need or issues within the neighbourhood, people know where to find this place. The neighbourhood council maintains an office within the community centre, making it convenient to host information evenings, for instance. There have been instances where young people caused disturbances in certain areas. These incidents were addressed in the community centre through discussions involving residents and the youths involved.

During the literature review, the significance of community centres did not become evident. To the researcher's knowledge, the relationship between community centres and guidance for children and teenagers does not appear in research at all. However, what is emphasised by several studies is the accessibility of amenities and the importance of multi-functional buildings (Mazumdar et al., 2018; Platts-Fowler & Robinson, 2016). Every nearby neighbourhood also has a community centre and a conscious choice seems to have been made not to create one community centre for three neighbourhoods, for example. As a result, the community centre can be easily found and is sufficiently accessible for most people in the neighbourhood.

Community garden

The community garden, located adjacent to the community centre, is often referred to as a charming and beautiful spot within the neighbourhood. Originally, the garden comprised several sections, including individual vegetable plots and a larger area designated for use by the primary school. It was later envisioned that both elderly and children could cultivate vegetables for cooking at the community centre. However, over time, the children lost their interest, therefore, the garden is now primarily tended to by adults. From the start of April, a dedicated group tends to the garden during favourable weather conditions. Since most people are not interested in vegetables, the garden now predominantly features flowers, contributing to its beauty in the summer. Residents

are allowed to pick them in spring and summer at minimal cost, which is said to bring people into contact with each other. These are, of course, mostly brief moments and the group that primarily tends to the garden remains relatively small.

The community garden shares many similarities with descriptions of community gardens that promote social interactions in other research (Firth et al., 2011; Yotti Kingsley & Townsend, 2006). For example, the garden provides a space where people can enjoy coffee together and the entire garden is shared. Furthermore, the garden is primarily managed by residents, with minimal involvement from the municipality or other organisations. Clear agreements also exist regarding opening hours and activities, as well as who participates in them, which encourages greater attention to one another. Despite offering these various opportunities, the effectiveness of the community garden is questionable due to the limited involvement of only about 15 active participants.

Library

The library is described as a frequently visited place. Since Nieuw Waldeck lacks other venues for cultural activities, this building is also designated as a cultural centre. Consequently, numerous activities are organised, such as piano performances that typically attract around 80 attendees. Additional events include poetry afternoons and visiting exhibitions. Every effort is made to ensure activities are accessible to everyone. For instance, during poetry afternoons, participants are encouraged to share what a piece evokes in them rather than being asked difficult questions about its meaning. The library is highly accessible, anyone can enter and find a seat. This accessibility also appeals to individuals seeking to save on heating costs during winter, which often facilitates interactions with others as they become frequent visitors. Some visitors, such as those with mental health issues, may only visit the library to seek out conspiracy theories. While these individuals often keep to themselves, the staff becomes more acquainted with them over time. There is also a helpdesk available for tax and financial matters. Therefore, when these vulnerable people need help, they are already in a familiar environment, thereby lowering the barrier for seeking assistance.

Several authors describe how libraries can greatly facilitate the development of social connections (Mazumdar et al., 2018; Platts-Fowler & Robinson, 2016). However, specific guidelines on how a library should be designed and operated are often lacking. Consequently, it is challenging to determine the extent to which this library functions optimally or requires further improvement. What is frequently emphasised is the importance of proximity. This aspect was also reflected in the interview data. It is noted that this library is highly accessible to many people, whereas the central library in Loosduinen, although not far from Nieuw Waldeck, is perceived as distant by many. This perception of distance encompasses both physical distance, as people may not be able to travel long distances and experiential distance. The presence of a major road between Nieuw Waldeck and the Loosduinen library diminishes the perception of proximity, reducing the likelihood of people visiting it.

'Gulden klinkers and the Waanzinnige Waldeck Tuin'

There have been a number of initiatives where residents have refurbished bits of greenery in the neighbourhood. So-called 'gulden klinkers' have also been regularly distributed for this

purpose. Residents can submit their initiatives to the municipality. As a reward for their efforts in the neighbourhood, they are given a 'gulden klinker' and receive a voucher of 1,000 euros to further invest in it. In the interviews, responses to this initiative vary. For instance, one interviewee indicated that residents should not be responsible for improving the neighbourhood and that the municipality should not support these initiatives for the wrong reasons. Another interviewee, on the other hand, suggested that these kinds of initiatives can foster community pride and that revitalising a piece of green space can also trigger further positive developments. These same residents have also, for example, cleaned up the street together on several occasions. The duration of such initiatives varies. For instance, if certain initiators move away, it might happen that refurbished areas get neglected again. Nevertheless, there are moments when groups of residents come together and establish relationships as a result.

One of the most significant initiatives for which a 'gulden klinker' has been awarded is the 'Waaninnige Waldeck Tuin'. Initially, the municipality aimed to develop housing on this vacant plot of land. However, local residents opposed the plan and protested. Consequently, a garden with play areas was created according to their vision. This initiative continues to receive strong support, with residents actively maintaining the garden. For instance, one interviewee mentioned that any litter in the garden is promptly removed. A notable aspect of these initiatives, however, is that the 'Waaninnige Waldeck Tuin' is managed by the immediate neighbours, resulting in its use primarily by a select group.

Playgrounds

Playgrounds can play a significant role in neighbourhoods by facilitating interactions among parents and children. Two interviewees noted that both parents and children are frequent users of these playgrounds. To verify this, playground visitation patterns were observed on a sunny afternoon. Indeed, parents and children were present in almost every playground. However, contact between parents appeared to be limited. The extent to which these playgrounds actually foster social connections therefore remains debatable. Bennet et al. (2012) indicate that the availability of more playgrounds correlates with decreased contact among parents. This phenomenon could also be at play in Nieuw Waldeck. Additionally, there is a large sports field where soccer, basketball and various other sports can be played, which is particularly important for the welfare work active in Nieuw Waldeck. Previously, the youth worker provided sports lessons on this field, which was later transferred to another organisation called 'Streetsport'. It is noted that this engagement is crucial for reaching vulnerable children at an early age, facilitating connections with them and their often vulnerable parents. The organisation also involves parents who can assist the instructors, fostering a collaborative environment. Efforts are made to organise accessible sports activities where parents can easily participate and contribute. One drawback of the sports field is the inadequate lighting, making it challenging to organise activities in winter. Therefore, the possibility of using the gymnasium of the adjacent primary school is now being explored.

Missing amenities and shortcomings

The interviews also reveal inadequate amenities, particularly for children over 12 and young people. While the community centre offers indoor space, there is a need for more outdoor opportunities as well. Due to this shortcoming, young people gather in places like playgrounds,

where they often leave behind litter. Additionally, financial resources pose a challenge. In the past, the community centre could open more frequently for young people, but due to staff shortages, it is now limited to two evenings. While it is acknowledged that they should not become overly reliant on a single location and should be able to behave appropriately in public spaces, it is noted that two evenings are insufficient. Furthermore, although there is frequent mention of limited amenities in Nieuw Waldeck, aside from increased opportunities for young people, specific needs were not identified.

Nieuw Waldeck is characterised by many residents with a mental health background. Combined with occasional nuisance from youth, this group poses the most challenges. The children's and youth workers are in contact with vulnerable parents, but not with vulnerable individuals without children, who could also benefit from contact with welfare workers. Their problems may be too complex for standard welfare services, but the growing population of individuals with mental health problems and other vulnerable residents might require more attention. While the library is accessible to them, the community centre is not.

Hypothesis 2: Several researchers, including Parés et al. (2018) and Mandemakers et al. (2021), emphasise the importance of residents' appreciation of their surroundings, which encourages them to stay in the neighbourhood longer and maintain social connections. Through the interviews, an effort was therefore made to understand people's perceptions in this regard. Several interviewed experts indeed indicate that the issue of overdue maintenance, as previously outlined in the case description, remains a pressing concern for many residents. While the need for extensive maintenance in the neighbourhood has been acknowledged on multiple occasions, residents feel that inadequate measures are taken to address their concerns. Although recent plans have been proposed, residents express little confidence in their implementation. However, other interviewees express that Nieuw Waldeck has many elements that are highly valued. The interviewed residents also indicated their appreciation for the environment. Generally, it was found that they truly value the green and water-rich surroundings. It also appears that housing associations' policies can make a difference. Tenants of one specific housing association indicated that they find their immediate living environment well-maintained by the housing association, so they are less affected by the municipality's overdue maintenance.

Other parts of the public space that are highly valued include the playgrounds and the petting zoo. The literature review reveals that the presence of such public spaces can positively influence residents' perceptions of the neighbourhood, even if they do not personally use these places. Indeed, the interviewees frequently cited the combination of the green environment and playgrounds as contributors to residents' satisfaction. Furthermore, the interviews demonstrate that decisions made by the municipality without resident participation can have significant consequences. For instance, the blue playground was frequently mentioned in the interviews. Interviewees indicated that residents have raised concerns about its safety and location, resulting in reduced visibility of children playing and allowing for loitering youth to misuse the area. Both the desk research and the interviews highlight the impact of this particular playground, indicating that relatively small elements can have a substantial negative influence.

Contrary to how the resilience reports published by Aedes describe how public spaces in resilient neighbourhoods often appear as very well-kept, many areas in Nieuw Waldeck are less adequately maintained. However, the neighbourhood also has many elements that residents greatly

appreciate. Overall, it can be argued that the physical environment likely has a more positive than negative impact on residents and it appears that the environment has played an important role in their long-term residency.

Hypothesis 3: Kenrick et al. (2010) suggests that residents' well-being is a precondition for maintaining social relationships, with a home playing a significant role in fostering well-being. In light of this, interviewees were asked about how residents perceive their homes. However, no relevant findings emerged. Some interviewees noted that residents generally seem satisfied with their housing, while others mentioned that homes managed by a specific housing association have numerous defects, but there was no mention of whether these issues significantly impact residents' well-being. Therefore, few conclusions can be drawn regarding this hypothesis for Nieuw Waldeck. However, it is important to note that a specific housing association mentioned that in almost every complex, at least one resident resides with mental health problems. For most residents, this does not seem to be a major issue yet, as they maintain good relationships with their other neighbours and are generally satisfied with their living situation. However, interviewees warn against the potential impact if more vulnerable residents were to move into these complexes. While dealing with one problematic individual might be manageable, a further increase in such residents could quickly escalate issues, diminishing the overall liveability and resilience of the area. The interviewees indicated that housing type plays an important role in this regard, as these vulnerable residents, for instance, scream at night and since most houses are quite noisy.

Hypothesis 4: The preceding paragraphs have already illustrated a relationship that differs from the literature review. Several studies indicated that well-maintained and high-quality public spaces can promote social encounters (Francis et al., 2012; Parés et al., 2018). However, in Nieuw Waldeck, there is a significant amount of deferred maintenance, which in some instances fosters a sense of community as residents come together to improve these spaces. While this communal effort is positive, it is worth noting, as emphasised by several interviewees, that poor maintenance can also lead to feelings of unsafety. Especially in combination with how the neighbourhood is structured with many paths with little visibility, excessive vegetation and inadequate lighting can create scary environments. Consequently, maintenance is negatively associated with both feelings of safety and walkability. For instance, residents are hesitant to walk to the community centre in the evening.

Other research suggests that an increase in street intersections correlates with higher crime rates. A 'bloemkoolwijk' naturally features many intersecting streets and indeed, interviewees indicate that Nieuw Waldeck is an ideal neighbourhood for individuals attempting to evade the police. Public transportation stops are also often highlighted as sites for undesirable behaviour (MacDonald, 2015; Sohn, 2016). The bus loop in Nieuw Waldeck is frequently mentioned as a location where youths have engaged in misconduct. This behaviour has escalated on several occasions to the point where it is no longer used by the bus service. Meanwhile, Nieuw Waldeck is described as a neighbourhood where relatively few incidents occur. Youth nuisance is minimal and the number of burglaries has significantly decreased. Several interviewees indicate that residents experience feelings of unsafety, despite lacking concrete reasons to feel unsafe anymore. These past experiences combined with poor maintenance, appear to contribute to continued feelings of unsafety.

When people make less use of neighbourhood facilities due to feelings of unsafety, this can result in fewer interactions taking place. This appears to be partly evident in Nieuw Waldeck since residents are hesitant to participate in certain activities in the evening. However, determining the full extent of this impact is challenging. What is clear, is that feelings of unsafety persist in Nieuw Waldeck. As shown in figure 1, resilience is determined by the development of nuisance and unsafety, encompassing both actual and perceived nuisance and unsafety. Thus, it is likely that Nieuw Waldeck could have been even more resilient if perceptions of unsafety were lower.

4.2.2 Buytenwegh

Hypothesis 1: compared to Nieuw Waldeck, there appear to be fewer amenities in Buytenwegh that facilitate interactions between residents. Interviewees indicate that these facilities do not operate optimally and opportunities for communal gatherings are lacking. While efforts to address this issue have intensified in recent years, during the period in which Buytenwegh showed resilience (2014-2020), such initiatives were largely absent. The following paragraphs therefore elaborate on why interviewees believe the current facilities are inadequate for the neighbourhood's needs and will also discuss the measures taken since 2020 to address this issue.

Community centres

There are two community centres in Buytenwegh. At first glance, one might expect numerous social activities to be available. After all, many neighbourhoods lack such centres altogether, so having two appears quite substantial. However, the interviews reveal that these centres primarily cater to a limited number of target groups within the neighbourhood. For example, they host bingo marathons and bridge afternoons that attract residents from all over Zoetermeer, activities that predominantly appeal to elderly residents and do not appeal to a significant portion of Buytenwegh's population. The interviewees emphasise that the community centres should truly serve the neighbourhood, but currently, this objective is not being met. The community centres are also operated in a complex manner. They receive subsidies from the municipality and also generate income from activities such as bingo evenings. Interviewees indicate that while there is nothing inherently wrong with this scheme, there are concerns about the lack of adequate monitoring. More frequent inquiries should be made into whether the community centres are sufficiently serving various resident groups in relation to the subsidies they receive.

However, in recent years, one community centre in particular has increased the number of social activities taking place there. The relationship between the neighbourhood manager and the chairman of the community centre does ensure that more initiatives can be established. For instance, the 'Jabezz' foundation has now been given a place there. This foundation guides children and counsels woman, providing them with the necessary tools to better participate in society. They used to meet in an old school building, but now they are allowed to use to community centre. Additionally, since the beginning of this year young people have been allowed to visit three nights a week. This initiative serves as an experiment to assess whether the youth in Zoetermeer would benefit from these so-called 'jeugdhonken'. This initiative will be evaluated at the beginning of the summer to determine its success and whether it should become a permanent or extended initiative. A further explanation on how youth are addressed in Zoetermeer is provided in the following section. Furthermore, there is a group of elderly people who gather around the mall on a daily basis

since there is no designated place for them. A resident has therefore asked, in cooperation with one of the housing associations, if they could also be given a space at the community centre. Similarly, there appears to be a group with a history of mental health issues gathering in the shopping centre, but it does not seem that this group will be given a place any time soon.

Amenities for children, teenagers and young adults

In terms of initiatives for youth, there have been very few established. This was likely complicated by the absence of a fixed location where youth workers could interact with young people and provide a welcoming environment for them to access support. Only recently has there been a turning point with efforts being made to address the needs of young people rather than simply enforcing policies against them. For instance, there have been instances of criminal groups and so-called drill rappers operating in the area. While measures such as installing cameras and imposing bans on gatherings have seemingly helped to significantly reduce these issues, many interviewees advocate for providing young people with more opportunities and adopting a proactive, preventive approach to support them. Many interviewees express positivity about the 'jeugdthunk' and its outreach to children and teenagers. The youth workers also use the adjacent sports field to engage in sporting activities with them. Additionally, it seems important to reclaim specific locations within the neighbourhood. For instance, a field that was once a hotspot for youth-related disturbances is now used for organising various constructive activities. This effectively displaces the negative behaviours. People are generally positive about these developments, but the nature of youth problems appears to differ significantly between Buytenwegh and Nieuw Waldeck. In Buytenwegh, issues have often revolved around rivaling groups, with instances of excessive violence occurring. Consequently, fairly stringent measures have been deployed from time to time to reduce this youth nuisance. The interviewees noted that when measures are relaxed, the nuisance tends to increase quite rapidly, although there are currently no large criminal groups operating.

Social organisation and shopping centre

There is also a social organisation active in Buytenwegh with two locations, one of which is located at the shopping centre. This organisation follows its own methodology and provides services such as language lessons and assistance with skills like clothing repair. The interviewees are positive about the activities at these locations and also indicate that they primarily work with residents of Buytenwegh. It is therefore emphasised that these facilities should remain in place. However, from the interviews, a clear relationship with establishing social contacts cannot really be established. Participants come here temporarily to acquire specific skills before transitioning to further education or employment. Thus, these places do not serve as permanent venues for fostering social connections.

Regarding the shopping mall, the interviewees generally express negative views. The layout is considered illogical, the shops do not look attractive and it is considered a scary place at night. Francis et al. (2012) describe how good-quality shopping centres can contribute to social cohesion. Although the shopping centre was refurbished in 2007, by 2010 it was already indicated that its residential value was not very good. Some groups do hang out there, such as the elderly, but this is not considered desirable as there is still a lack of good places for them. However, it does serve as a convenient place where people can easily be approached. The community worker and employees

from the municipality and housing associations therefore gather four times a year in the shopping centre to serve as points of contact for the residents of Buytenwegh. This approach serves as a good starting point for various initiatives, as it seeks out residents willing to contribute to the neighbourhood. However, as the previous paragraphs have illustrated, it is challenging to support these ideas and wishes due to the limited availability of space. Additionally, the approach emphasises the necessity for residents themselves to be highly involved in carrying out initiatives, as the community worker and neighbourhood manager have limited time for organising activities. It is indicated that there are few people willing and able to take on this responsibility, which is regrettable considering events like neighbourhood parties are often well attended.

Hypothesis 2: As indicated earlier, Buytenwegh is also described as a green and water-rich environment. However, residents and experts do not view this as a very positive feature. Experts describe that the green and water structures are not well connected to housing and residents do not indicate that they value their surroundings more because of the many green spaces. On the contrary, because the greenery is poorly maintained, it is often seen as a disadvantage. For instance, one interviewee described that upon entering Buytenwegh two years ago, one would encounter overgrown greenery, litter and poorly maintained housing. While improvements have been made in some areas since then, residents generally continue to express dissatisfaction. Residents also seem to lack confidence in the municipality's approach. For instance, while the public area of one residential block has been renovated, a block next to it has not. Consequently, residents feel neglected. According to them, the municipality had no funds left to renovate their area too and they notice that this has increased the negativity that was already prevalent. The issue of rubbish also remains a topic of discussion. While residents contribute to the pollution themselves, they feel that the municipality does not collect waste often enough, making it difficult to maintain a clean living environment.

Unlike Nieuw Waldeck, few elements of the physical environment seem to contribute to people liking living in Buytenwegh. Residents mention that the only reason for them to stay is that they cannot find a better house for their current rent and live close to shops and the city centre. One interviewee noted that this unappealing living environment leads those who can afford more expensive housing to move away from Buytenwegh, a trend also observed in research conducted by the municipality. This aligns with the literature review, in which it was indicated that people often leave for more attractive living environments. Additionally, social contacts are often lost as a result of such relocations. However, this particular aspect was not mentioned in the interviews. Given the frequent mention of minimal existing social contacts, it is understandable that this was not emphasised.

Hypothesis 3: This hypothesis investigates a potential relationship between housing quality, well-being and the ability to maintain a social network. While relevant findings did not emerge from the interviews conducted in Nieuw Waldeck, in Buytenwegh, there appears to be an interesting correlation present, primarily due to people experiencing significant improvements from a disadvantaged position. Particularly concerning the deck housing, almost all interviewees express that people are living in a very deprived environment. They have minimal contact with each other and experience considerable nuisance from their neighbours. The car parks beneath the dwellings contribute to feelings of unsafety and are known as attractive places for criminal activities.

However, where homes are improved, a notable difference is observed. In some areas, houses have been renovated to address mould problems and other defects. Efforts have been made here to provide a significant boost by assisting residents with cleaning their gardens. Containers were placed by one of the housing associations for a large-scale clean-up. Additionally, collaborative actions are organised involving residents, the municipality and the housing association to clean the neighbourhood by collectively picking up rubbish. Residents are directly rewarded for their participation, with pizza distributed before these activities. Residents indicate a renewed desire to become more involved in the neighbourhood as they finally feel supported. As their own homes are improved, they are also more inclined to maintain order in their surroundings. The housing association also notes an increase in social interactions, through the clean-up efforts, people get to know each other better. More importantly, they also observe that residents seek additional opportunities for social contact beyond these organised events. Thus, it is strongly argued that improving housing leads to more social contact. It should be noted, however, that the renovations are relatively recent, so whether these contacts will be maintained is not certain. Additionally, both the experts as well as some residents stress that there are substantial cultural differences in many parts of Buytenwegh. In these areas, renovations do not seem to make a difference.

Hypothesis 4: Similar to Nieuw Waldeck, poor maintenance also fosters feelings of unsafety in Buytenwegh. Particularly inadequate maintenance in combination with the car parks exacerbates numerous problems. The parking garages are already dark places, but combined with the dense vegetation, there is little supervision possible. These feelings of unsafety are not unsubstantiated as various incidents occur in the car parks, including frequent drug use. Interviewees describe how the parking facilities, along with other poorly maintained areas, have become hotspots for criminal activities, instilling significant fear among residents about venturing out at night. Consequently, several parking garages around the mall have been closed. Where the surroundings are better maintained and car parks are closed, it is reported that people feel safer and there is a decrease in crime. In places where parking garages remain open, issues often persist. However, resolving this is not always straightforward. Complicated ownership relations between associations of owners, the housing associations and the municipality make interventions challenging for housing associations. For example, parking standards must also be taken into account. Closing garages often lead to parts no longer meeting the parking standard. Moreover, some stakeholders are more proactive in addressing pollution than others. For instance, one housing association prioritises immediate graffiti removal to limit space for youth, whereas in other buildings, removal may be delayed due to financial constraints within the owner's association.

Several interviewees have thus stressed that poor maintenance certainly increases unsafety. However, few connections are established between this unsafety and reduced social contacts. Contacts and amenities where people can gather are already minimal, thus unsafety does not seem to further contribute.

4.3 Hypotheses & conceptual framework

Now that both neighbourhoods have been extensively analysed, the final conceptual framework can be established, see figure 23. The following paragraphs describe whether the hypotheses were indeed sufficiently evident in the neighbourhoods and where relationships deviate from what was expected. As outlined in chapter 3, the research findings and recommendations were presented to Jeroen Frissen and each hypothesis was discussed with him. Therefore, this section also discusses the validation of each hypothesis. This is shown in the grey areas.

Hypothesis 1 assumed that the various amenities and elements of public spaces in Nieuw Waldeck and Buytenwegh foster social contacts, contributing to resilience. In Nieuw Waldeck, there are numerous opportunities for people to connect with one another. There are opportunities for residents to interact with each other, for relationships between residents and experts and for engagement between different organisations. The community centre, in particular, plays a vital role by providing a safe learning space for vulnerable children and teenagers, as well as offering support to parents. This physical place in the neighbourhood also facilitates the organisation of various events, serving as a readily accessible location for multiple purposes. The playgrounds, sports field, community garden, pieces of adopted greenery and the library also contribute to people connecting with each other. While these amenities and public spaces have a smaller impact compared to the community centre, together they still provide numerous opportunities in the neighbourhood.

The current amenities and public spaces play an important role, as their absence would result in the loss of valuable contacts and networks. Especially the relationships that children and teenagers develop seem to be very important and the guidance provided by the welfare work appears to significantly contribute to resilience. This is why this aspect has been separately added in the framework, see figure 23. It remains challenging to determine the extent to which the connections between other residents contribute to neighbourhood resilience. However, since the importance of the community centre is so clearly highlighted, hypothesis one is sufficiently visible in Nieuw Waldeck. Additionally, Nieuw Waldeck has shown that it is not solely about the buildings. For instance, a youth worker may engage with a child for up to five years before the young adult can further develop independently. While the community centre may facilitate activities, without dedicated people and years of commitment, little is accomplished.

In comparison to Nieuw Waldeck, people in Buytenwegh are a lot less positive about the impact of the various amenities. While there is quite a diversity of facilities in Buytenwegh, their usage is not viewed positively. Although there have been some positive developments in recent years, particularly in one community centre, for a long time there has been little focus on social activities that appeal to all target groups in Buytenwegh. Moreover, there seems to have been too little attention given to children and teenagers.

What is also noteworthy is that several amenities and services that are lacking in Buytenwegh are present in Nieuw Waldeck. For example, the welfare organisation prefers to have a permanent location in the neighbourhood where activities can be organised and where children and teenagers can also have a consistent space. While in Nieuw Waldeck, relationships between children's and welfare workers have been fostered from a permanent location for years, this has only recently become available in Buytenwegh. Furthermore, there is a mothers' club that would like to meet in a fixed location, a resident who wants to cook with children and a need to address

prejudices among people from different backgrounds by facilitating meetings in a physical space. These are all initiatives that have been challenging to organise in Buytenwegh, but have been present in Nieuw Waldeck for years.

In chapter two, it was emphasised that diversity and proximity are crucial factors. Increased diversity in amenities and having more amenities nearby are correlated with higher levels of social cohesion and a stronger sense of community (Mazumdar et al., 2018; Francis et al., 2012). However, in Nieuw Waldeck, this diversity is lacking. While the available amenities are generally perceived positively and are in close proximity for many residents, greater diversity might have fostered more social relationships. Buytenwegh has a relatively diverse range of facilities, but the lack of alignment between these facilities and neighbourhood needs appears to hinder the promotion of social interactions. These shortcomings do make it more difficult to prove hypothesis 1.

Validation

Jeroen Frissen points out that this hypothesis revolves around the importance of meetings to foster mutual understanding and prevent estrangement. After all, it is very challenging to show solidarity with someone you do not understand. While this is another assumption, Jeroen Frissen indicates that he thinks the first hypothesis is correct and that the importance of opportunities for meeting in neighbourhoods cannot be stressed enough. He emphasises that indeed not only contact between residents is important, but contacts between residents and professionals are just as crucial. He mentions that there is a world to be gained by enabling meeting based on the needs present in a neighbourhood. He also recognises the importance of proximity and focusing on children and teenagers. However, he proposes going a step further by investigating whether meetings play a much bigger role than we think in neighbourhoods in transition, where new and old residents live together and whether these interactions can be encouraged through designated meeting spaces.

Hypothesis 2 suggested that residents' appreciation of their living environment contributes to their length of residence, thereby preventing the loss of contacts. In Nieuw Waldeck, it is evident that the physical environment significantly contributes to the appreciation of the neighbourhood, despite poor maintenance. The arrangement of water and green spaces, along with numerous playgrounds and the petting zoo enhance the residential attractiveness. Conversely, in Buytenwegh, the opposite is observed, with the unattractive living environment prompting many residents to leave the neighbourhood. In Nieuw Waldeck, long-term residents maintain contacts over time, while in Buytenwegh, where contacts are often already minimal, it is not specifically mentioned that they are lost. Hypothesis 2 can therefore be confirmed based on the findings from Nieuw Waldeck, but not from Buytenwegh, as the loss of contacts does not occur since they are not present in the first place.

Validation

Jeroen Frissen agrees that this hypothesis holds true, based on his observations in the neighbourhoods he researches and acknowledges the importance of environmental appreciation for length of residence. He also shared two additional insights. Firstly, he notes that professionals tend to remain active longer in attractive neighbourhoods, because they also enjoy working in and maintaining such environments. He cites Amsterdam as an example, where significant funds are

allocated to preserving historic neighbourhoods, while less appreciated ones receive less attention. This results in a disparity where less investment is directed towards the less attractive areas. He also references Jan Willem Duyvendak, who in one of his studies discusses a problematic combination of three elements: a socio-economically homogeneous and socio-culturally heterogeneous neighbourhood, where residents do not prefer to reside. This closely resembles the situation in Buytenwegh. Jeroen Frissen stresses that it is not only about existing residents but also about attracting new ones, emphasising the importance of new residents choosing to live somewhere rather than settling because it is the only option available. This influences how new residents interact with existing ones and, consequently, affects resilience.

Hypothesis 3 investigated the potential relationship between housing quality, well-being and social connections. This hypothesis cannot be fully confirmed, because there were no findings in Nieuw Waldeck to support this relationship and while it is interesting that contacts seem to improve after large-scale renovations in Buytenwegh, more examples are needed to draw solid conclusions. What did become apparent in Nieuw Waldeck is the significance of the number and type of vulnerable residents in a complex. The addition of just one or two vulnerable residents can transform a situation from one with limited nuisance and unsafety to one with extreme liveability problems all at once. This aspect was also discussed with Jeroen Frissen. Housing type plays a crucial role in this dynamic, as older homes tend to be noisy and residents with mental health problems often contribute to noise pollution. Consequently, this relationship has been incorporated into the framework. The lines representing hypothesis 3 have been shaded in light grey to indicate that while this relationship cannot be fully confirmed, it is not entirely absent either.

Validation

Jeroen Frissen recognises the situation in Nieuw Waldeck in particular. He notes that an increasing number of vulnerable individuals have moved into social housing, many of whom have a history of mental health problems, a group that also often contributes to heightened noise pollution. Simultaneously, a significant part of this vulnerable population is less able to deal with such noise disturbances, making the issue of noisy homes increasingly critical. He also highlights the role of renovations in exacerbating this issue, as homes are often renovated in a way that traps noise inside even more.

In his research, Jeroen Frissen adopts a relatively broad definition of vulnerable residents, but during the validation, he indicated that it frequently pertains to those with mental health challenges. He underscores that when problems arise, residents quickly feel less at home, leading to negative perceptions of nuisance and unsafety. Especially in these situations, a small increase in problematic residents, by 1 or 2 individuals, can significantly escalate these issues.

Hypothesis 4 assumed a relationship between maintenance and unsafety. Buytenwegh, in particular, has shown that poor maintenance is indeed associated with more unsafety. Specifically, the combination of housing type and inadequate maintenance is often cited as a contributor to these feelings. This relationship is therefore added in Figure 23. In Nieuw Waldeck, poor maintenance is more associated with feelings of unsafety rather than actual unsafety. Additionally, there are elements present in both neighbourhoods identified as places where undesirable behaviour occurs, such as the bus loop in Nieuw Waldeck and the shopping centre in Buytenwegh.

Hypothesis 4 is thus apparent in both neighbourhoods. However, no very clear relationship was seen between feelings of unsafety and reduced social contacts. Therefore, this relationship is again coloured light grey in figure 23.

Validation

Jeroen Frissen indicates that this hypothesis is clear and that everyone understands the importance of good maintenance. Therefore, this last hypothesis reflects on the implications of this research, wherein Jeroen Frissen also points out that if we take today as our starting point, the situation will not automatically improve and challenges are likely to only worsen. There will be more neighbourhoods in transition and neighbourhoods where the number of vulnerable people increases. The noisiness of housing will play an increasing role and there will probably remain few opportunities for meeting. Although ideally, more research should be conducted to further confirm the hypotheses, this research and the validation with Jeroen Frissen do indicate the importance of paying continued attention to these neighbourhoods. The recommendations in the next chapter focus on areas for improvements based on these research findings.

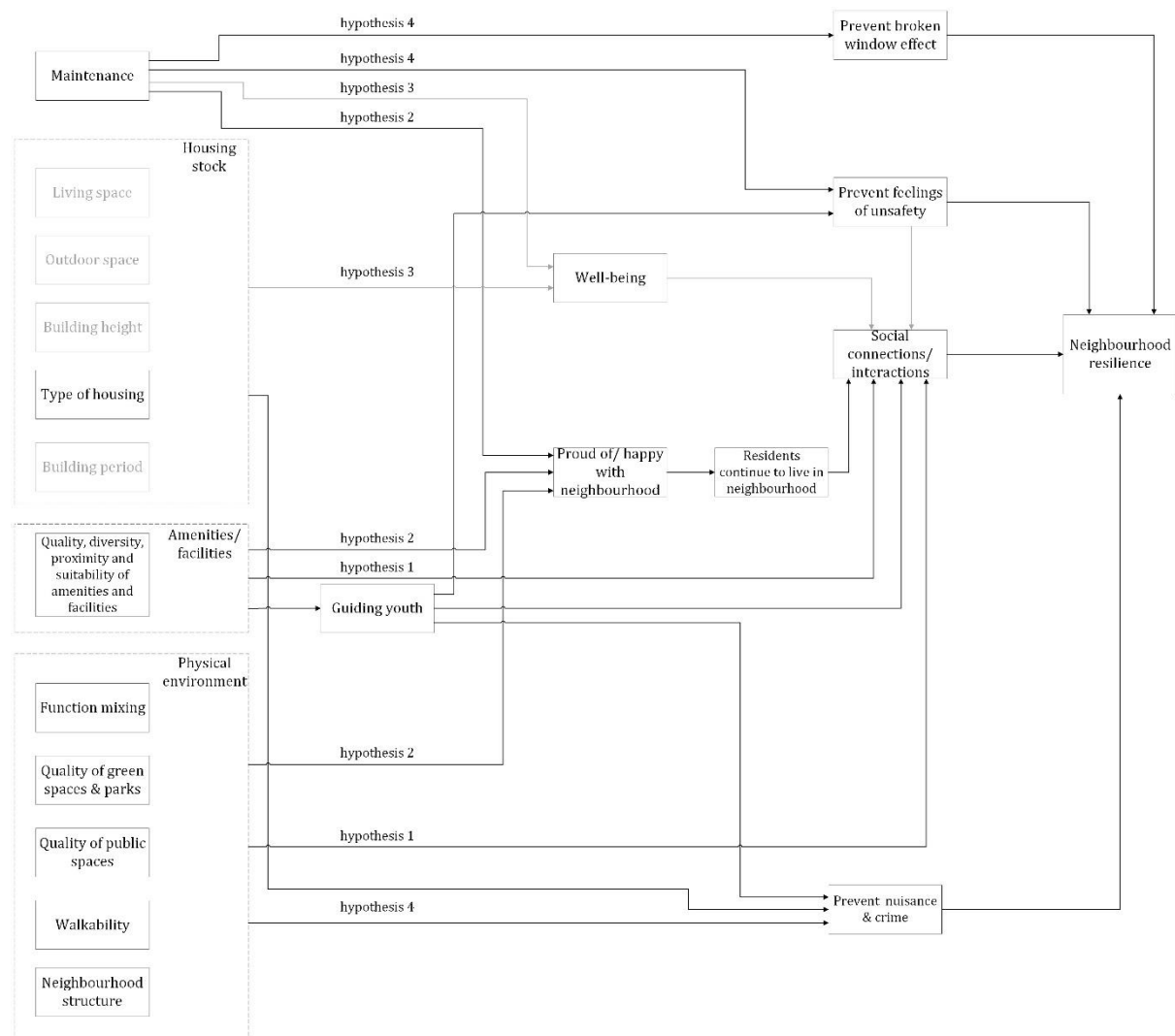


Figure 23: Final conceptual framework (own work)

4.4 Differences between neighbourhoods

As the previous sections have shown, the interviewees generally hold negative views about the built environment in Buytenwegh. This poses a challenge for this research, as it specifically sought positive experiences with the built environment. Since Buytenwegh does not seem to be a suitable neighbourhood in this regard, it is more difficult to determine exactly how the built environment can contribute to resilience. This is addressed further in the limitations. The next paragraph provides a possible explanation for why Buytenwegh shows an improvement in liveability despite negative experiences with the built environment.

Both neighbourhoods have experienced almost equal improvements in liveability, but very different problems have played a role in each. In Buytenwegh, there has been significant youth crime, with rivalling youth groups using excessive violence against each other. The municipality has taken decisive action against these criminal youth groups, which have been successfully dissolved. Some members were even imprisoned or relocated. Since this crime has been significantly reduced, the figures likely show such an improvement in nuisance and safety. However, this improvement is due to social intervention, with the built environment not playing a role. The improvement in liveability shown by the figures is thus explained by the significant improvement in safety. It appears that there is still considerable room for improvement in Buytenwegh by also focusing on the built environment.

The different resident compositions in both neighbourhoods also seem to cause different problems. In Nieuw Waldeck, a sizeable group with a history of mental health issues resides that is difficult to adequately support. They often exhibit disruptive behaviour and struggle to connect with their neighbours. In Buytenwegh, the presence of cultural differences appears to significantly impact social interactions. Residents and experts highlight the limited interaction between different cultures. For instance, it is observed that families from diverse backgrounds, such as Somali and Moroccan, prefer separate benches at the same playground to avoid contact. Similarly, during events organised in the shopping centre, there is a noticeable lack of intercultural interactions. In contrast, cultural differences are seldom mentioned in Nieuw Waldeck. This disparity may contribute to the observed lower levels of interaction among residents in Buytenwegh.

A last notable difference is that in Nieuw Waldeck, there has traditionally been a neighbourhood council, which is part of the Loosduinen committee. The mayor and aldermen are obligated to listen to this committee, fostering an active residents' group that brings problems to light. This structure facilitates easy collaboration when issues arise and ensures direct communication channels between residents and the government. Of course, there are many residents who do not participate in the neighbourhood council, meaning that there will always be issues that the council does not address. However, compared to Buytenwegh, this setup does make it easier for residents to actively communicate problems.

Chapter 5



5. Conclusions & Recommendations

This chapter outlines the conclusions of the research. After completing all the research phases and describing the research results, an answer to the main research question can be formulated. To be able to answer the main research question, several sub-questions were formulated. This chapter therefore first provides answers to all sub-questions, followed by answering the main research question. This chapter also presents the recommendations, which are described in section 5.3.

5.1 Sub-questions

5.1.1 Sub-question 1: How is the built environment defined and what are its key elements?

After reviewing various literature on resilience, it became evident that the built environment comprises three main elements: the housing stock, amenities & facilities and the physical environment, also referred to as the public space. These components are addressed in both the resilience literature as well as the ‘leefbaarometer’. By examining the explanations written about the ‘leefbaarometer’ regarding the housing stock, amenities and the physical environment, alongside other insights from the literature review, it was possible to determine which aspects of the built environment possibly influence resilience. As further described in sub-question 3, resilience seems to arise particularly when people are better connected. Additionally, the influence of the built environment on safety is important. The following paragraphs therefore explain which elements of the built environment are important in relation to social contact and safety.

Housing stock

Building height, type of housing and construction period indicate the attractiveness of a residential area. It is important for residents to appreciate their surroundings to prevent relocation, which could lead to the loss of social connections. Regardless of the occupants, whether, for instance, expats or refugees, residents tend to value their neighbourhood less as buildings become taller. Housing can also significantly impact people’s well-being. When one’s well-being is compromised, maintaining social connections becomes more challenging. Living space and housing type can influence this dynamic. Lastly, the outdoor space of a dwelling can enhance social interactions.

Amenities and facilities

Various facilities can directly contribute to fostering relationships between people. Commonly mentioned amenities include libraries, clusters of diverse shops and multipurpose buildings. What is particularly important about amenities is that people perceive their quality as satisfactory and that they are conveniently located. The diversity of amenities also plays a significant role. Several studies indicate that social cohesion in neighbourhoods is often better when there is a greater variety of facilities. Moreover, the quality of amenities is not only important for those who use them. When residents value the amenities in their neighbourhood, it can enhance their overall appreciation of the area, even if they do not personally use them.

Physical environment

Certain features of public spaces can also directly facilitate social interaction. Parks, in particular, are frequently cited as venues where many social gatherings occur, particularly when they cater to diverse target groups. Additionally, community gardens and similar communal spaces where people can engage in gardening together are cited as contributors to social interaction. The 'leefbaarometer' also considers function mixing as part of the physical environment. While the integration of different functions within an area can promote social cohesion, some studies suggest that mixed-use neighbourhoods may also experience higher crime rates compared to residential areas. Another important aspect is the walkability of a neighbourhood. Areas with better walkability tend to exhibit stronger social cohesion and lower crime rates. Finally, the configuration of the street network plays a role, neighbourhoods with a higher number of intersections often experience more crime.

Maintenance

And lastly, maintenance is an important element. This encompasses the upkeep of housing, amenities and public spaces. Maintenance of housing is again important in relation to resident's well-being, while maintaining the physical environment is essential for addressing feelings of unsafety and preventing undesirable behaviour. Neglected areas often evoke perceptions of unsafety, even in the absence of actual incidents, but they can also become attractive places for criminal activities. Several studies show that feelings of unsafety correlate with a decline in social ties. And lastly, maintenance contributes to the overall appreciation of a neighbourhood. Insufficient maintenance, when coupled with other factors, can make residents to relocate to more appealing areas.

5.1.2 Sub-question 2: What criteria and methodologies can be employed to assess whether neighbourhoods can be classified as resilient or less resilient?

Several studies indicate that resilience can be measured in various ways. One commonly used method is through regression models, which analyse specific stressors and outcomes to identify neighbourhoods that perform better than expected. Stressors used, for example, include unemployment rates and loss of income, while outcomes can encompass anti-social behaviour and crime rates. However, for this study, a different approach was adopted. Resilience maps, available on the website of the Dutch branch organisation of housing associations called 'Aedes', were used. These maps assess resilience by examining how nuisance and unsafety evolve with an increasing number of vulnerable residents. If liveability remains stable or even improves under these conditions, the neighbourhood is considered resilient. The proportion of vulnerable people is determined by looking at microdata from the CBS and data from the 'WoonZorgwijzer'. For nuisance and unsafety, data from the 'Leefbaarometer' is used. The following groups are considered vulnerable:

- People dependent on welfare benefits (CBS)
- People with an origin from one of the refugee countries (Syria, Iraq, Iran, Ethiopia and Eritrea) (CBS)
- People with mild intellectual disabilities (WoonZorgwijzer)

- People with psychiatric disorders (WoonZorgwijzer)
- People with multiple, chronic somatic conditions and mobility limitations (WoonZorgwijzer)

5.1.3 Sub-question 3: What are the characteristics of the built environment of resilient neighbourhoods?

The literature review showed that the social aspect is especially important in resilient neighbourhoods. In areas where there is more resilience, people are more likely to interact and there are often a variety of opportunities to meet new people and maintain contacts. Resilient neighbourhoods, therefore, often feature various amenities and public spaces that create opportunities for social interaction. They are also frequently described as neat and well-maintained. Additionally, considering the definition of resilience used for this research, the prevention of nuisance and unsafety is important. This includes perceived nuisances, such as neighbour arguments. Thus, when the built environment can influence behaviour in a way that reduces nuisance and undesirable behaviour, it directly enhances resilience.

Looking at the two selected neighbourhoods, both are very green and water-rich and they have numerous amenities that could promote social interaction. In Nieuw Waldeck, these include the neighbourhood centre, the library, the community garden, the 'Waanzzinnige Waldeck Tuin' and various playgrounds. In Buytenwegh, the two neighbourhood centres, the parks, the two locations of the welfare organisation and the shopping centre could enhance social contacts. Although the literature describes resilient neighbourhoods as well cared for, both Nieuw Waldeck and Buytenwegh receive considerable criticism regarding maintenance and pollution. Particularly in Buytenwegh, residents express strong dissatisfaction with the neighbourhood's appearance. Similarly, in Nieuw Waldeck, there is criticism about green maintenance. Despite these issues, many residents in Nieuw Waldeck appreciate the abundance of green spaces, water and playgrounds.

Both neighbourhoods are so called 'bloemkoolwijken'. In the selection of suitable neighbourhoods, numerous other 'bloemkoolwijken' made it to the shortlist. Thus, resilience appears to be quite often present in these types of neighbourhoods. Furthermore, there were also quite a few early post-war neighbourhoods that showed resilience. However, the specific characteristics of these were not investigated. Hardly any neighbourhoods built after 1990 made it to the shortlist. It is challenging to precisely describe what resilient neighbourhoods look like because, for instance, early post-war neighbourhoods were not further explored. However, especially when considering Nieuw Waldeck and the literature review, resilient neighbourhoods typically feature a variety of social amenities and an environment that is well appreciated.

5.1.4 Sub-question 4: Which elements of the built environment are highly valued in resilient neighbourhoods and which elements are considered less important or even have a negative impact?

Looking at Nieuw Waldeck, the community centre in particular plays a significant role. Through this physical place in the neighbourhood, the welfare work easily engages with vulnerable young people and their parents. This leads to several benefits. Children and teenagers develop a social network, both among themselves and with youth workers. Interviewees emphasise the

importance of this in preventing young people from engaging in wrong and potentially disruptive behaviour. Additionally, children and teenagers learn how to behave in public spaces and interact with others. Since these youths spend two days a week in the community centre and are educated about the impact of their behaviour on others, it is noted that this reduces nuisance for residents. Furthermore, as there is contact with vulnerable parents, they can easily seek assistance and children receive support in making choices, such as regarding their education, aiming to provide them with more opportunities in life. The location is also crucial, the community centre's proximity to the primary school facilitates easy access for children and parents and the adjacent sports field is used for weekly sports activities with children, fostering further contact.

The community centre is also used by many other groups. Various dance and sports classes take place and there are numerous activities for the elderly. However, it is mentioned that the community centre is not very accessible if you do not come with a specific purpose.

The library is described as a place that attracts quite a few people. It organises all kinds of cultural activities that are open to everyone and are well attended. Additionally, it offers language lessons and assistance with money and tax matters. The library is easily accessible for everyone, including people with mental health problems. By visiting regularly, they become acquainted with the staff, reducing barriers to asking questions or accessing money assistance. Furthermore, people gather in various gardens. The community garden, located next to the community centre, is maintained by a group of about 15 volunteers. In the summer, the garden is visited by many people who can pick flowers. The 'Waaninnige Waldeck Tuin' is maintained by residents living adjacent to it.

Overall, people feel satisfied with their living environment. The combination of greenery, water structures and elements such as the various playgrounds and the petting zoo contribute to people's appreciation of the area. Several experts, in particular, indicated that overdue green maintenance is a hindrance for many residents, but a number of interviewed residents stated that they are less bothered by it. They indicate that their immediate surroundings are well maintained by the housing association and that amenities like the petting zoo indeed add value for them.

Those interviewed in Buytenwegh painted a very different picture. The interviewees express negativity about the various amenities. The two neighbourhood centres, in particular, could host a variety of activities, but the interviewees indicate that the activities held there do not align well with the neighbourhood's needs. This is slowly changing now, as different actors are reconsidering what activities should take place in the community centres, but this is only a recent development. What is noticeable is that different stakeholders are trying to make certain initiatives possible that have long been in place in Nieuw Waldeck. Since the beginning of this year, an experiment has been initiated to provide children and teenagers with space at the community centre three nights a week. Various stakeholders have shown positivity towards this initiative, but it is not yet certain if it will become a permanent venue for these activities. Furthermore, this location cannot be permanently allocated for welfare work, unlike the community centre in Nieuw Waldeck, thus making it less accessible at various times. Other initiatives, such as organising gatherings for groups of mothers, cooking with children and facilitating gatherings with people of diverse backgrounds, are in need of space but currently lack available venues.

Many interviewees also express concerns about the shopping centre. They describe it as unappealing and poorly laid out. Moreover, certain groups, including a group of elderly and a group with a history of mental health issues gather at the shopping centre on a daily basis as they lack

alternative places to socialise. However, this situation is less than ideal as the shopping centre is not designed to accommodate groups gathering there for extended periods daily. According to several studies, parks can also promote various interactions, but essentially all interviewees do not perceive any added value in the two parks (Mazumdar et al., 2018).

The type of housing and maintenance further play a significant role in Buytenwegh. The car parks and poorly maintained areas have created places where unwanted and criminal activities thrive. It is further described that in several places, people reside in polluted environments and poorly maintained housing, with minimal contact among residents. However, in areas where improvements have been made, there is a noticeable increase in positivity and social interaction among residents. Unfortunately, these improvements can sometimes lead to heightened negativity in adjacent areas that have not received similar attention. Moreover, in some renovated areas, cultural differences appear to be too significant. Here, renovations cannot affect the atmosphere to the extent that people interact more.

5.1.5 Sub-question 5: What conclusions can be drawn regarding the influence of the built environment on neighbourhood resilience?

The findings from the previous sub-question should lead to drawing general conclusions, but how can these findings be translated into lessons for other neighbourhoods. Since the library in Nieuw Waldeck is frequently attended, does this imply that other neighbourhoods would also benefit from a library? Of course, this is difficult to substantiate. Therefore, the following paragraphs outline what vulnerable neighbourhoods seem to need and how buildings and public spaces can serve these purposes.

What both neighbourhoods have in common is a specific focus on youth. The community centre in Nieuw Waldeck appears to have a significant impact on youth development, both socially and in terms of the choices they make in life. The networks they establish here play an important role in their development as they mature. In Buytenwegh, the interviewees also express a desire to provide similar opportunities for youth. Especially children and teenagers with vulnerable parents appear to benefit from guidance by children's and youth workers. Therefore, in neighbourhoods where various youth problems exist, establishing facilities for young people can be highly beneficial. Its success primarily depends on the accessibility of the personnel working there, as well as the familiarity that children, teenagers and parents develop with them. Therefore, it is important that welfare work or other organisations can sufficiently use a certain building. Both neighbourhoods also demonstrate that nearby sports fields can help establish initial contacts with children and parents. In addition, interviewees from both neighbourhoods indicated the importance of accommodating young people in the evenings. Therefore, a building must also be equipped for this purpose, preferably with a space that young people can tailor to their preferences.

It is also crucial that as teenagers grow older and desire to spend time outdoors independently, there is designated space for this purpose. Rather than leaving them to loiter on the streets, it is better, as indicated by the interviewees, to establish a specific place for them. In doing so, it is essential to involve them in deciding what this place should look like. The relationships they have developed during their younger years determine their future behaviour in these places. In Nieuw Waldeck, it was noted that both the youth worker and the neighbourhood agent have maintained strong connections with children and teenagers over the years, as well as with each

other. This longstanding contact enables easier engagement with them as they mature, making it also easier to hold them accountable for their behaviour. Collaboration can be important here to address issues within specific groups or individuals. The location of a building plays an important role in this context. When organisations are readily accessible due to a suitable location, it enhances communication and collaboration among different stakeholders. Location is also important when it comes to usage by children. The community centre in Nieuw Waldeck is located next to the primary school, making it familiar to many parents and children. Conversely, a more distant location may result in parents restricting their children from going there.

This focus on youth can directly impact resilience, as it often leads to a decrease in the nuisance caused by young people. There is also a need in both neighbourhoods for facilities where a wide range of activities can take place, including cooking with children, activities for the elderly and meetings between mothers. The presence or absence of a flexible, multifunctional building then determines how easily or difficult such initiatives can be set up. In neighbourhoods where such initiatives are possible, such as in Nieuw Waldeck, people do establish many new contacts.

Interviewees in both neighbourhoods indicated that residents often lack the capacity to initiate neighbourhood projects. The community workers seek collaboration with residents as they have limited time to initiate numerous projects. Since this is very challenging, facilities where a fixed program is available can be beneficial, such as the library in Nieuw Waldeck. This allows for catering to the neighbourhood's needs, leading to initiatives like the poetry afternoons, without requiring residents to make additional efforts. It is noted that these events facilitate the formation of various connections among people. The community garden and the 'Waaninnige Waldeck Tuin' do represent initiatives that have originated from residents. However, these initiatives were primarily led by owner-occupiers who likely have more capacity for setting them up. While the 'Waaninnige Waldeck Tuin' appears to have significantly increased residents' satisfaction by transforming a neglected piece of land into a garden according to their preferences, the impact of the community garden seems somewhat limited, with only a group of 15 people actively involved. Although the garden is quite large, the workload is not substantial. In summer, the garden does get busy and people interact, but these are, of course, only brief moments. The group that is involved on a daily basis should benefit most from the community garden, but when only 15 people are involved, one's social network does not really expand.

The Youth workers in Nieuw Waldeck emphasise the importance of maintaining contact with vulnerable parents to provide further assistance with their problems. However, there are also many residents in Nieuw Waldeck with a history of mental health issues who have limited contact with neighbourhood organisations. While the library aims to serve as a point of contact, its assistance is primarily limited to financial matters. In Nieuw Waldeck, it is indicated that this group of people prefers solitude, but in Buytenwegh, it is mentioned that some of them enjoy gathering in the shopping centre. Given the sizable population with mental health issues in Nieuw Waldeck, residents stress the importance of establishing additional contact points for them within the neighbourhood, especially considering that at least one person with mental health problems resides in nearly every residential block. This group causes a lot of nuisance in Nieuw Waldeck, but the built environment cannot really address their needs.

In both neighbourhoods, the built environment contributes negatively to feelings of unsafety and crime. In Nieuw Waldeck, this is primarily attributed to overdue green maintenance, which fosters feelings of unsafety despite relatively low current criminal activity. The experts suggest

that past experiences likely contribute to these perceptions. In Buytenwegh, undesirable activities persist in many poorly maintained areas. Thus, a clear correlation between maintenance and resilience emerges in both neighbourhoods, as inadequate upkeep fosters both perceived and actual unsafety. Conversely, an appealing environment encourages residents to remain in the neighbourhood, preventing the loss of social connections. Despite maintenance issues, residents in Nieuw Waldeck still express appreciation for their surroundings and wish to continue residing there. Many cite amenities like the petting zoo as enhancing the neighbourhood's appeal, even if they do not personally use them. Therefore, it is essential to recognise that even a 50-meter difference can significantly impact residents' perceptions. This difference determines whether people consider an area to be part of their neighbourhood or not, highlighting the importance of targeted interventions where they are most needed. The same applies to homes and their immediate surroundings. In certain parts of Buytenwegh that have undergone renovation, residents are reconnecting and beginning to perceive their neighbourhood more positively. However, when similar measures are not extended to adjacent areas, existing negativity can worsen.

5.2 Main research question

“How can the built environment foster and enhance resilience within Dutch Neighbourhoods characterised by a large social housing stock and growing concentrations of vulnerable residents, thereby addressing the unfavourable developments of nuisance and unsafety in these areas?”

This research on the relationship between resilience and the built environment focused on how the built environment influences social relationships. It also examined how the built environment affects feelings of unsafety and crime, as these factors directly impact resilience. In the two vulnerable neighbourhoods studied, there are various lessons to be learned about what similar vulnerable neighbourhoods might need. The previous paragraphs have considered the importance of amenities and how specific programs within amenities can make a difference. Additionally, the interviewees primarily highlight the significance of how amenities are used, but they also mention that elements such as location can be important. Because these elements are crucial for answering the main question, but were somewhat mixed in the previous paragraphs, this last paragraph aims to be as specific as possible in indicating when and how the built environment makes a difference.

The previous section already offers a detailed explanation, but a focus on youth really seems important in vulnerable neighbourhoods. Starting from an early age is particularly crucial. It is imperative for organisations, or even specific individuals, to sustain long-term contact with these children. As children and youth workers build this network by organising various activities, having a building where these activities can take place is essential. It is, therefore, mainly about whether a building can be used in the desired way. However, the interviewees also mention several other important elements. The children's worker in Nieuw Waldeck notes that location is very important and that it could make a difference if the community centre were a few streets away. Defining a perfect location is, of course, difficult, but what seems to make a big difference in Nieuw Waldeck is that the sports field, primary school and community centre are all next to each other. It is also mentioned that children and young people need to like a place, otherwise, they will not want to

use it. They should primarily be able to decide for themselves when a place is fun and ideally, they should be able to design their own space.

In both neighbourhoods, there is a need for various social activities and different groups would like a place to gather. This requires something like a multi-functional building. In Nieuw Waldeck, there are opportunities for this and it is noted that people establish many contacts in the community centre. Of course, it remains difficult to determine precisely how these kinds of contacts contribute to resilience, but the literature review showed that social relationships play a crucial role in making a neighbourhood more resilient. A neighbourhood centre like the one in Nieuw Waldeck serves as a valuable facility for fostering such relationships. The community centres in Buytenwegh seem to be less effective because of the activities organised there. Buytenwegh shows that control of amenities is important and that it can be very decisive who manages an amenity. Ultimately, the program that takes place determines who attends it and the program depends on what is possible in a building and who makes it possible. Additionally, location is again important since some neighbourhoods can be quite large. If amenities like these are not centrally located, it could mean that fewer people will use them. Several interviewees also indicate that such an amenity should look attractive and inviting. Whether amenities are actually used more if they look more attractive cannot be determined with this research.

The type of building needed for social activities and the programs that should be organised are strongly related to the type of vulnerable resident in a neighbourhood. Since many vulnerable residents are often unable to organise initiatives themselves, it is crucial to offer a good mix of regular programs and opportunities for them to initiate activities. It should be well understood to what extent residents have the capacity to contribute to the organisation of activities, as programs that expect too much from residents may cause many activities to fail or have to stop after a certain time. Accessibility also plays an important role. The library in Nieuw Waldeck is considered more accessible than the community centre. Therefore, when organising activities for specific target groups, it is important to consider this factor, as one building may be perceived as less intimidating to enter than another. This does not necessarily mean that multiple buildings are needed, but it is important to be aware of this. Some residents may initially use the library only for computer access before engaging with others, whereas at the community centre, immediate interaction is often required. This difference can be significant for certain residents.

Besides the contacts residents have with each other, the contacts between residents and professionals and between professionals themselves, are also very important for resilience. Good amenities play a role in facilitating these interactions. The children's worker in Nieuw Waldeck can establish contact with vulnerable parents who come to the community centre for their children. In addition, it ensures that experts are easy to find for residents. The community worker in Buytenwegh indicated that to truly solve the major problems in a neighbourhood, one needs to be there continuously and be able to work from a fixed location in the neighbourhood. For the various collaborations experts have with each other, it does not always seem necessary to have specific facilities, but it can make certain things easier. The cooperation between the neighbourhood police officer and the youth worker in Nieuw Waldeck seems to have played a big role, giving them a good overview of what was going on among young people. Here, it may have helped that the neighbourhood police officer could easily walk into the community centre. Additionally, the community centre is seen as a place of knowledge, indicating that when external people need

information about the neighbourhood, they often turn to the community centre first. This ensures that partners who are not familiar with the neighbourhood can quickly gain valuable insights.

In addition to the role amenities play, this research also demonstrates that elements of the physical environment significantly influence resilience. In both neighbourhoods, poor maintenance affects resilience. In Nieuw Waldeck, overdue maintenance primarily evokes feelings of unsafety, while in Buytenwegh, a combination of housing type and poor maintenance leads to undesirable and criminal activities. Addressing these issues tends to decrease undesirable behaviour, but not all areas have been sufficiently addressed to eliminate the problems entirely. Despite poor maintenance, interviewed residents in Nieuw Waldeck revealed that appreciation of public spaces can also encourage residents to remain in the area and thereby maintain social contacts. The physical environment can thus have both positive and negative influences simultaneously. Buytenwegh also displayed some positive aspects. Although a clear relationship between well-being, housing quality, and the ability to develop and maintain social contacts was not found, Buytenwegh did show that large-scale renovations can have a significant impact and sometimes result in improved contact between residents.

Both neighbourhoods also highlight the importance of identifying the specific vulnerabilities present in each. In Nieuw Waldeck, this entails addressing the needs of many residents with mental health backgrounds. Most residents are unable to assist these individuals and the built environment offers limited support. If this group grows even larger, there are few means to ensure resilience. In Buytenwegh, cultural differences are very evident. While this is not a specific vulnerable group, it does make it harder for people to connect with each other. It therefore remains important to understand the residents in a neighbourhood to determine whether and how the built environment can contribute. The recommendations in the following section offer guidance on interventions and policies in vulnerable neighbourhoods, but it is essential to always remain aware of the neighbourhood's characteristics to ascertain which interventions are more or less necessary and whether they can be effective.

5.3 Recommendations

The following paragraphs discuss the recommendations, which have been formulated based on the various relationships confirmed in Chapter 4 and the conclusions drawn in this chapter. Additionally, some references are made to the validation with Jeroen Frissen.

- Since youth was a prominent theme in the interviews, it is only natural that the first recommendation focusses on children, teenagers and young adults. Establishing a place where children and teenagers can receive structured supervision and guidance seems to be highly effective. In neighbourhoods grappling with youth issues, it is important to assess existing initiatives for young people. If the focus is solely on addressing youth problems through, for instance, police interventions, it may be advisable to also implement policies specifically aimed at supporting young people, identifying their needs and responding accordingly. In any case, having a facility that allows for long-term guidance, possibly spanning up to five or even more years, appears important. Such a place should ensure that children can visit multiple times a week and that teenagers can spend several evenings there as well. As these teenagers grow older, they require spaces in public areas designed according to their preferences to prevent them from loitering in other locations.

- The second recommendation aligns with the first, emphasising that people often matter more than buildings. For the youth work in Nieuw Waldeck, the building it uses and location are indeed important, as there needs to be a physical space for activities and engagement with children. However, beyond this building, it is primarily the individuals involved who make the difference. The youth worker has witnessed several generations grow up and many interviewees emphasise her significant impact on the neighbourhood. Similarly, the neighbourhood police officer has maintained positive relationships with children, teenagers and young adults for years. Together, they were well aware of the different groups and individuals requiring extra guidance or attention. They mentioned that trust is very important and that building trust takes a lot of time. Therefore, it is crucial that people filling these positions are dedicated and preferably willing to commit to a neighbourhood for a number of years. While this cannot be enforced, it is necessary for employers and organisations, such as the police, to be aware of the impacts of certain attitudes. Particularly when individuals leave, it is essential to ensure a smooth transition and to be aware of the potential effects it can have. An attitude where it is considered normal for new people to come in with a different approach every so often is not suitable for these types of neighbourhoods. It is also important to acknowledge the effects of limiting financial resources. Children and teenagers could benefit greatly from extended opening hours if more youth workers were available.

- Both neighbourhoods have demonstrated the need for the ability to organise a variety of social activities. A third recommendation is to ensure that there is sufficient space available for various initiatives and opportunities for engagement. From my research findings, it was particularly clear that a multi-functional building is important and that it is equally important to consider how such a building should be managed. How a certain facility is managed determines the ease or difficulty of implementing new ideas. In neighbourhoods where social contacts are already limited, it is counterproductive if neighbourhood initiatives cannot be developed due to ineffective management. A multifunctional building with active social work, as seen in Nieuw Waldeck, can ensure that a community centre truly serves the neighbourhood's needs and does not organise activities that are irrelevant to most residents. Jeroen Frissen provided an example from a neighbourhood in Arnhem where people make intensive use of a large playground, adjacent to a small building where professionals work, facilitating easy contact with mothers in the playground. He also mentioned another instance where a neighbourhood has a community centre, but seeks to utilise it for events in the weekend, yet the centre remains closed on weekends. This underscores how location and policy can significantly impact effectiveness. It is therefore recommended not only to provide ample opportunities for encounters, but also to carefully consider where and how specific interventions can have the greatest impact. In addition, building accessibility plays a major role for vulnerable residents. Therefore, combining functions, such as integrating a community centre with a library, can be beneficial to lower barriers. In doing so, the usage of a building might positively change. When current buildings are not suited for this, careful thought should be given to the program for each building, but when possibilities do exist, it is advisable to consider function blending first and then the program.

- The fourth recommendation also focuses more on people than on buildings, as it has become apparent in both neighbourhoods that residents are often unable to participate in organising various social initiatives. Due to limited hours available to community workers in these neighbourhoods, establishing initiatives often requires intensive cooperation with residents, resulting in fewer activities being organised. Therefore, a fourth recommendation is to acknowledge

that residents in such neighbourhoods often have limited capacity for involvement. When there is a clear need for diverse activities in the neighbourhood, it would be more effective for community work to possess the capacity to largely initiate these activities itself. While the ultimate goal may be for groups to become more independent over time, initially, community work should have sufficient time and resources to offer intensive guidance. It is then also preferred that they can work from a fixed location in the neighbourhood, ideally in the same building where all these different activities take place.

- Maintenance and pollution have multifaceted effects within neighbourhoods. Particularly in Buytenwegh, residents have noted that the neglected appearance of the area provides additional leeway for groups to engage in undesirable or criminal activities. Not removing graffiti, for instance, reinforces the notion among several young people that they can act without consequence. Hence, it is strongly recommended to acknowledge the effect of poor maintenance. In Buytenwegh, residents feel entirely neglected due to a combination of poorly maintained housing and a polluted living environment. Although it is acknowledged that residential appeal falls short of standards and requires more than just addressing maintenance, when maintenance issues significantly impact safety and foster a sense of neglect, prompt intervention might be necessary. Waiting for larger restructuring plans may then not be wise. Moreover, both neighbourhoods demonstrate that such neglect can motivate residents to relocate, as it engenders a feeling of being unsupported. Regarding resilience, maintenance is crucial to prevent both actual and perceived unsafety and to prevent residents from feeling marginalised, which could prompt them to move. Additionally, it diminishes resident's engagement as they perceive their complaints as ineffective.

- In addition to the previous recommendation, both neighbourhoods demonstrated the importance of residents valuing their living environment to prevent them from relocating. Of course, transforming an unattractive neighbourhood into an appealing one overnight is unrealistic. However, municipalities could reconsider whether ample attention should be given to already pleasant neighbourhoods, or if allocating some additional funds to less favoured areas would be more beneficial. As Jeroen Frissen highlighted, it can also be important to reignite enthusiasm among all stakeholders, including experts, fostering a positive momentum in the neighbourhood.

- When areas do undergo renovation, effective communication becomes crucial to avoid a further lack of trust in organisations. Rebuilding trust requires clear communication followed by concrete actions. In a specific part of Buytenwegh, one particular individual has earned residents' trust through dedicated efforts towards renovations. However, residents of some streets have even more misunderstandings towards the municipality since adjacent streets have been renovated while theirs remain neglected. While this may not directly relate to resilience, it highlights a broader issue: residents often refrain from reporting problems because they doubt any action will be taken. When different organisations aim to improve communication with residents to be better informed about problems, they also need to demonstrate commitment to informing residents and explain why certain choices have been made. Of course, in the absence of a good reasons, misunderstanding may still remain.

- The last recommendation addresses differences among vulnerable residents, as different vulnerable individuals also present different challenges. In Nieuw Waldeck, it is noted that a significant number of residents have mental health issues. Fellow residents mention that it is nearly impossible to communicate with these individuals. For most residents, this does not pose a major

issue, as they maintain good relationships with other residents and generally enjoy living in Nieuw Waldeck. However, there are currently no mechanisms in place to manage a situation in which this group continues to grow. This final recommendation addresses that, even in seemingly resilient neighbourhoods, the presence of specific vulnerable residents can quickly undermine this resilience. Therefore, where possible, different organisations, such as housing associations, municipalities and institutions should collaborate and share insights to assess whether current residents can handle additional individuals with psychological issues. Specifically for housing associations, being mindful of the noisiness in such homes is paramount. When housing associations are aware that certain areas have a high concentration of residents with mental health backgrounds, it becomes important, especially during renovations, to consider methods for reducing noise pollution.

Chapter 6



6. Discussion

This final chapter comprises the discussion, in which the undertaken research is evaluated by reviewing the process and discussing important limitations. It addresses validity & generalisability, interpretation of the results, limitations and finally recommendations for future research.

6.1 Validity & generalisability

For the validity of this research, an effort was made to select two similar neighbourhoods. By maintaining consistency across various variables, a meaningful comparison between the two neighbourhoods could be achieved, as similar issues or successes may have the same underlying causes. The selection criteria included data from the 'leefbaarometer' and building years. However, it has become evident that understanding a neighbourhood's dynamics also requires input from both experts and residents. Despite initially intending to investigate neighbourhoods with comparable characteristics, the study ended up examining one with predominantly positive perceptions and another with largely negative viewpoints. Both neighbourhoods show an improvement in liveability, but in Buytenwegh, this improvement cannot be linked to the built environment. Safety is very important for liveability, and this seems to have improved considerably in Buytenwegh because the criminal youth groups that were active there have been dissolved. This improvement is therefore due to social intervention and is independent of the built environment. However, this study aimed to investigate neighbourhoods where the built environment actually influences improvements in liveability. Although the two investigated neighbourhoods share many needs and are still comparable when looking at factors like complex maintenance, identifying factors of the built environment that contribute to resilience proved more challenging. Enhanced validity could have been achieved through some exploratory interviews capturing experts' experiences. Thus, combining objective data with subjective insights during the case selection could have provided a more comprehensive understanding.

However, the comparison between Nieuw Waldeck and Buytenwegh still generated valuable results, by allowing for a comparison of the different neighbourhood centres, for example. While it is necessary to be critical of how the cases were selected, both neighbourhoods provided valuable insights. Additionally, it is essential to question the accuracy of the 'leefbaarometer,' which indicated that the built environment of Buytenwegh is close to the national average and scores better than the national average in terms of amenities. The significant disparity between the perspectives of professionals and residents and the data from the 'leefbaarometer' regarding the physical environment and amenities really underscores the need to be critical. In this case, with regard to the built environment, this tool does not accurately align with the actual situation.

It was known fairly early in the study that generalising results would be challenging, given that only one specific type of neighbourhood would be studied. Primarily due to the time-intensive nature of in-depth interviews, a deliberate choice was made to investigate only two neighbourhoods instead of, for example, four. This approach yielded valuable insights: had fewer people been interviewed per neighbourhood, children's and youth workers might have been overlooked, despite their seemingly significant impact. While the current results may be less generalisable, conducting similar research in early post-war neighbourhoods could provide a very comprehensive overview. Furthermore, this research aimed to provide valuable recommendations, which can only be

achieved if they are well-founded. Engaging with a diverse range of experts increases the likelihood of understanding causes and consequences, enabling recommendations to be based on shared experiences rather than solely on individual perspectives. Thus, the nature and aim of this research lend themselves more to a focused approach rather than a broad one.

6.2 Interpretation of results

The literature study revealed that resilience appears to be closely linked to social relationships among residents. Various amenities play an important role in fostering these connections, with a diverse range of amenities particularly enhancing social interactions. However, Nieuw Waldeck lacks this diversity, while interviewees in Buytenwegh indicate minimal impact from amenities. Despite this, several amenities in Nieuw Waldeck do contribute to increased social interactions. The effectiveness of multi-purpose buildings, as emphasised by several researchers, is evident in Nieuw Waldeck, where the community centre hosts a variety of activities. The research results mainly show that the usage of amenities is important. Youth must be well supported with the right facilities, and space is needed for various social activities. This also involves several other factors. For instance, location is important for youth work because this determines whether all children are reached. Location is also important for social activities because, especially in larger neighbourhoods, a place can quickly be found to be too far away. For youth work, it is crucial that children and teenagers find a place attractive, otherwise they are less likely to use it. Additionally, the program that takes place in a building and the functions it serves are very decisive in reaching the right target groups. For collaborations between different actors, amenities seem to play a lesser role, although certain amenities can help facilitate this. Previous studies have not thoroughly examined the importance of how amenities are used. Additionally, the importance of relationships among children and teenagers, which appears to be a significant factor, is mostly overlooked.

Both neighbourhoods have illustrated that poor maintenance can contribute to feelings of unsafety and actual unsafety, as well as influence residents' decisions to stay or relocate. These findings align with existing literature, however, resilient neighbourhoods are often characterised by well-maintained surroundings, a quality not typically associated with either neighbourhood. Additionally, the literature review demonstrated that adequate housing is essential for residents' well-being and compromised well-being can hinder their ability to engage in social relationships. In Nieuw Waldeck, residents express satisfaction with their housing and mention good contact with their neighbours. However, this evidence is insufficient to draw conclusions. Conversely, in Buytenwegh, improvements in social cohesion were noted in renovated areas. Nonetheless, more instances like this are needed to establish a definitive relationship between housing quality and social interactions.

6.3 Limitations

This research has several limitations. Some limitations relate to earlier stages of the research, while others have emerged during the field research. The following paragraphs describe these various limitations.

One limitation concerns the selection of cases. While the resilience maps proved valuable in identifying resilient neighbourhoods, assessing the quality of the built environment in these areas proved challenging. Essentially, no tools collect data about the quality of the built environment

comprehensively. Consequently, data from the ‘Leefbaarometer’ was used for assessing the built environment. However, this tool does not include important factors like the appreciation of amenities and it often evaluates the built environment positively across many neighbourhoods in the Netherlands. Perhaps if other factors were measured, the differences would be more substantial. As a result, neighbourhoods with negatively rated built environments were almost not available for selection. In the end, this did not matter as much because the intention was to examine neighbourhoods with positive experiences to make recommendations for other neighbourhoods. Yet, as a researcher, having multiple options is desirable and using this tool actually limits options.

The resilience maps offer valuable insights, but they also have limitations. While they identify different vulnerable groups, the fieldwork reveals that various types of vulnerable residents can have diverse impacts on neighbourhoods. For example, the maps do not show the prevalence of many individuals with mental health problems in Nieuw Waldeck. Moreover, they indicate an increase in vulnerable residents or an improvement in liveability in neighbourhoods facing many problems, but the exact extent of this increase is or the exact number and type of problems remains unclear. Using more primary data and developing regression models could provide a deeper understanding of resilience. However, given time constraints, the resilience maps remain highly useful for studies. As mentioned previously, conducting brief exploratory interviews with experts can help provide further insights, serving as a less time consuming alternative.

A third limitation concerns the availability and willingness of experts and residents to participate in interviews. For the validity of this research, it is important to consistently engage with the same experts in both neighbourhoods. To achieve this, individuals from the same organisations, such as housing associations and municipalities, were consulted. However, a challenge that emerged was that a function existing in one organisation might not exist in the other, making it difficult to engage with exactly the same individuals. Additionally, one person was sometimes more willing to help and easier to contact than the other. Therefore, within one organisation, you might talk to someone who is more focused on policy, while in the other, you might engage with someone who is closer to residents. And while it was possible to talk to a youth worker and the neighbourhood policeman in one neighbourhood, these individuals were unavailable in the other. Thus, this somewhat hinders an optimal comparison.

During the interviews with each expert, the aim was to pose similar questions. However, their differing experiences, opinions and knowledge made it challenging to maintain consistency across the interviews. In some cases, it became evident within a few minutes that certain topics were beyond their scope or that their strong opinion made certain questions irrelevant because they did not seem to understand the importance of preceding related questions. Consequently, no two interviews were entirely comparable. While this variation provided depth on specific aspects, it also means that subsequent researchers lack clear guidelines for questioning in other neighbourhoods.

A final limitation concerns the interviews with residents. Although several individual residents were interviewed, it would have been preferable to organise a focus group as well. Focus groups allow residents to interact, challenge each other's opinions and provide collective insights, adding further value to the study. Despite this limitation, the individual conversations with residents were quite long and their experiences aligned well with those of the experts. Thus, enough valuable insights were still obtained from residents relatively quickly.

6.4 Future research

Follow-up research could, of course, focus on other types of neighbourhoods. However, since there are very few positive views on the built environment in one of the neighbourhoods, studying additional neighbourhoods constructed during the same period could provide many additional insights. Furthermore, since this research is very explorative, conducting similar research more frequently could enhance the potential for identifying similarities and extracting general lessons. It may also be worthwhile to delve into the different types of vulnerable residents within various neighbourhoods to assess whether certain amenities are better suited to their needs. Moreover, since both neighbourhoods have demonstrated a central focus on youth, it would be interesting to learn if other neighbourhoods have similar approaches and to identify the effects of more or less intensive approaches. Given that both neighbourhoods also exhibit negative correlations, such as those between feelings of unsafety and poor maintenance, investigating areas that have successfully addressed such issues would be beneficial. Lastly, exploring how larger housing renovations, like those observed in Buytenwegh, contribute to social cohesion could offer valuable insights, as there were too few examples of this in Buytenwegh to draw definite conclusions.

Another major field for future research concerns the first limitation of this research: the inability to objectively measure the state of the built environment, which presents a significant obstacle. If there were an unambiguous tool for this, it would be possible to examine how resilience relates to the built environment for all neighbourhoods in the Netherlands and draw solid conclusions about the frequency of well-rated built environments in resilient neighbourhoods and vice versa. Jeroen Frissen also emphasised during the validation that this is a crucial area to investigate. This research should not only focus on the quality of housing but also encompass the quality of public spaces and amenities. He highlighted that although we often discuss availability, affordability and quality, we struggle to measure the latter accurately.

Furthermore, the 'leefbaarometer' has recently published data for 2022. However, this data does not hold much significance for this study yet, as it considers a combination of liveability and vulnerable residents. Half of the data is still missing, so to speak. Once this data is incorporated into the resilience maps, it will be interesting to see how the neighbourhoods have developed. However, at the moment, nothing definitive can be concluded.

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Appendix A: Reflection

This appendix presents the personal reflection. It first briefly reflects on the topic and then discusses some lessons and insights regarding the process and method. Finally, it also reflects on my experience with the graduation lab and mentoring.

Topic

Reflecting on my research journey, I believe the chosen topic has presented me with both challenges and benefits. I had doubts about it on several occasions, especially when comparing it with fellow students' topics, which often appeared more concrete and seemingly less complicated to answer and after conducting the first interviews, I questioned whether I could arrive at valuable conclusions. While I now believe I did reach valuable conclusions, this topic and the nature of this research do not lend themselves to drawing very solid conclusions, something I had hoped for. However, I find research related to living environments genuinely interesting and through this research, I was able to have diverse conversations and gained various insights. Despite the numerous uncertainties I encountered, I had the opportunity to learn from the experiences of numerous experts regarding certain living environments.

Process and method

Some of the lessons learned, insights and improvements stem from how I typically operate, my personal preferences and my character. Other lessons have more to do with experience, for example. The following paragraphs outline these insights.

I know about myself that I always prefer certainty and strive to take the next steps as quickly as possible to stay on track or even ahead of schedule, allowing for some leeway in case of unexpected challenges. Therefore, I was pleased when the method for selecting my cases was determined and I began working on it enthusiastically. However, in the end, one neighbourhood proved to be less suitable for this research, highlighting the potential value of conducting short exploratory interviews to better understand neighbourhood dynamics beforehand. This might have led me to choose a different neighbourhood instead of Buytenwegh. As I aim to complete tasks promptly to allocate more time to tackle other challenging aspects of the research, I believed I had selected the cases carefully enough. Looking forward, I advise myself to have more confidence, which would allow me to invest more time in certain research steps.

The above also led me to undertake an internship within a less suitable company. Eventually, I pursued an internship at a housing association in Rotterdam, as I had already inquired about it during the summer. Looking back, it would have been more logical to do an internship in The Hague or Zoetermeer. However, since I was not certain which cities I would be researching neighbourhoods in until late, I wanted to ensure I could follow an internship somewhere. It would probably have been easier to organise a focus group if I would have chosen an internship in one of these two cities. Several people from different housing associations were willing to assist me and put in considerable effort. However, arranging an event where multiple tenants gather is challenging and cannot really be expected of them.

A third insight pertains to the case section. I chose to select only two cases and especially since most interviewees hold negative viewpoints about the built environment of one of the

neighbourhoods, it is more difficult to determine which elements of the built environment positively influence resilience. However, I do believe it is necessary to conduct at least 5 interviews per neighbourhood. I only began to grasp the bigger picture after 4 or 5 interviews. Therefore, the results might have been more representative if I had examined more neighbourhoods, but they could also have been inconclusive if I had conducted only, let's say, 3 interviews per neighbourhood. During the interviews, you try to understand the dynamics of a neighbourhood, but it is sometimes difficult during the first interviews to distinguish between factual information and personal opinions. Thus, multiple interviews are necessary to comprehend how things truly operate. Consequently, I still believe that examining two neighbourhoods is the best option within this time frame.

The interviews also provided some personal insights as they made me realise that I find conducting interviews more challenging than expected. So, for the first interviews, I was well-prepared, but sometimes, I realised within 5 minutes that many of the questions were no longer relevant, as someone's opinions and knowledge greatly influence the type of questions you can ask. Each interview experience has been unique and for some interviews, it was difficult to keep the conversation going, so at times, I found myself asking many irrelevant questions before regaining focus. This inevitably affects the quality of the data, but I believe such challenges are common for novice researchers and improvement comes with practice.

The last important insight concerns the link between the literature and the research data. In the beginning, I found it difficult to clearly write down all the data. Additionally, while I felt that I had gathered interesting insights, I was uncertain whether they were sufficient to answer the research question. I then began writing with the idea that when things are written down, it might automatically become clear how everything can be logically structured. However, this approach proved challenging and it was also pointed out to me that the literature and the interview data actually represented two different worlds. By working with hypotheses, it became easier to structure and establish a connection between the fieldwork and the literature review. It also allowed me to draw clear conclusions regarding whether certain relationships are evident in the neighbourhoods or not. Thus, sometimes you still need to add elements to your research to make the overall story clearer.

Graduation lab & Supervision

For this thesis research, I was affiliated with the Housing Inequality Lab. While this provided some advantages, there were also some aspects that did not fully support my process. For instance, I received minimal useful feedback during the p1 practice presentations and the feedback for the p2 presentations mostly aligned with that of my own supervisors. These presentations even somewhat hindered me as I had to start preparing for them earlier than was convenient. Consequently, I opted out of practicing the p4 presentation. However, the data management meeting was useful, as I was unaware of the extensive steps involved. It was also helpful to get to know fellow participants in the lab, to be able to talk to them from time to time about graduation-related matters. I primarily had contact with three other students from the lab, as we collaborated on another course. However, our communication quickly decreased after the course had ended. Observing others' processes and topics was insightful, but there was little interaction with the other

students after the p1 presentations. It might have been beneficial to see each other a bit more often, because now it has felt like a rather lonely process.

The individual counselling sessions I had with my two supervisors were always very helpful. Initially, I met with them individually, but later, we began having more frequent consultations with all three of us. At first, I found this challenging as I thought having all three of us present would be more effective. However, after some sessions, it became evident that it did not really matter, since each consultation moved me forward and since my two supervisors did not have significant conflicting perspectives. One particular guidance session did prove challenging, the last one before my p2 presentation. During this session, it was suggested that I should incorporate additional literature, some of which contradicted elements already present in my literature review. This caused some stress as the literature review was expected to be completed before the p2 presentation. However, I eventually found sufficient time after the presentation to work on the literature, especially during periods of waiting for responses from potential interviewees. Ultimately, integrating this literature significantly improved my literature review and facilitated more targeted questions during the interviews.

Appendix B: Field work

This appendix briefly explains with whom I conducted interviews and how the fieldwork was carried out. In Nieuw Waldeck, I interviewed twelve people and in Buytenwegh, seven. The table below lists exactly who I spoke to in each neighbourhood. The functions are presented in Dutch, as direct translations into English may not always be accurate. I directly approached most individuals since their contact details were public. Additionally, some experts I spoke with referred me to others and I also obtained contacts through my internship company. Almost all interviews took place on-site and lasted an average of one hour. While most interviews were one-on-one, occasionally, unexpected additional participants joined.

In Nieuw Waldeck, I conducted numerous interviews at the community centre, which allowed me to see for myself what happens there and how many residents attend certain activities. I walked around in both neighbourhoods several times, both before and after the interviews, to ensure thorough preparation and to observe elements of the built environment that were mentioned during the interviews, since you sometimes only start to pay attention to certain elements once you have heard about them. In Nieuw Waldeck, I have also observed the usage of the playgrounds and the community garden.

Furthermore, I aimed to speak with residents. I knew organising a focus group would be challenging, but in Nieuw Waldeck there are several groups that gather at the community centre. My intention was to engage with one of these groups. Unfortunately, this did not work out. As an alternative, I spent a few hours with the neighbourhood managers of one of the housing associations in both neighbourhoods. They introduced me to several residents with whom I had lengthy conversations. In Buytenwegh, I spoke to three residents using this method and in Nieuw Waldeck, four. Additionally, in Buytenwegh, I engaged with several individuals at the shopping centre. In Nieuw Waldeck, I also spoke with a member of the neighbourhood intervention team and a resident who volunteers in the community garden.

	Nieuw Waldeck	Buytenwegh
Gemeente		
	Medewerkers Welzijn, jeugd & participatie (2)	Planoloog
	Voormalig wijkmanager	Adviseur sociale basis
	-	Wijkregisseur
Woningcorporatie		
	Beheerconsulenten Haag Wonen (2)	Wijkmeester Vidomes
	Medewerker sociaal beheer Hof wonen	Projectmedewerker leefbaarheid Stedelink
	-	Woonconsulent De Goede Woning
Welzijnsorganisatie		
	Opbouwwerker	-
	Kinderwerker	-
	Jeugdwerker	-
Buurtwerk		
	-	Buurtverbinder
Buurt interventieteam		
	Voorzitter (bewoner)	-
Politie		
	Voormalig wijkagent	-
	Huidige wijkagent	-