



Quality of Life and Public Space in Wijchen

Dave de Bruijn

Master Thesis
Urban and Cultural Geography
Nijmegen School of Management
Radboud University
Nijmegen, October 2018



Quality of Life and Public Space in Wijchen

Dave de Bruijn

Master Thesis Urban and Cultural Geography

Nijmegen School of Management

Radboud University, Nijmegen

October, 2018

Mentor: Pascal Beckers (Radboud University)

Corian Hugenholtz (Municipality of Wijchen)

Student Number: 4353021

Word Count: 35401



Preface

Hereby I present you the final version of my master thesis about the link between quality of life and public space. This thesis is the final work of my master Urban and Cultural Geography at the Radboud University. Before the actual research starts, I would like to thank a few people who made this project possible. First of all, I would like to thank Pascal Beckers, my supervisor from the Radboud University, for his effective and thorough feedback. Secondly, I would like to thank Corian Hugenholtz, my supervisor from the municipality of Wijchen, for the pleasant collaboration. Thank you for guiding me throughout my internship and for providing valuable advices, practical insights and a great time in Wijchen. Thirdly, a big thanks to the project groups, respondents and all the very kind people at the municipality for giving me the possibility to actively involve this research in the projects and providing me with all the needed information and tools to make this research and internship a success.

Dave de Bruijn

Summary

This research deals with the link between quality of life and public space in the context of present day diversity. The research is carried out in the municipality of Wijchen, in which the projects “Wijchen-Zuid” and “Tussen Kasteel en Wijchens Meer” serve as case studies. The positive link between public spaces and quality of life is frequently stated in academic literature, but the evidence of this statement is underdeveloped and meagre, which makes it an interesting research topic. This research made use of desk-research, surveys, semi-structured interviews and unstructured observation in order to give an answer to the following main question:

How do residents of different socio-economic backgrounds of the project-areas “TKWM” and “Wijchen-Zuid” experience their local public space and how does this affect their perceptions of quality of life?

First, to answer this main question, the characteristics and underlying ideas regarding public space in the two project areas have been studied and observed. The TKWM area has to become in line with the high quality standard as implemented in the village’s center area. The center entails some high quality public space, popular for both staying and moving through the area. The public space in Wijchen-Zuid is cluttered, introverted, has a mediocre quality and above all a negative status. The observation sessions revealed some confusing and dangerous spots in the infrastructure and some disused public spaces. Also, the observations revealed that some of the spaces are an important part in the daily lives of various local residents.

Secondly, the surveys amongst the local residents of both projects areas entailed the rest of the valuable information. For the TKWM area, the results showed that the link between public space and quality of life cannot be made. The relationships that do exist do relate to the general appreciation of the area and are thus on a more abstract level. The local residents give a very positive rating to the different facets of the area and to public space. The most notable drawbacks are loiterers and traffic safety. For the Wijchen-Zuid case, the results are slightly different. There are several connections between public space and quality of life, namely in the dimensions health, personal development, services, security and the physical environment. The ratings of both the neighbourhood in general as public space are more positive than expected, judging by desk research and unstructured observation. The present problems in the physical environment can be found mainly in maintenance issues, both regarding infrastructure as the greenery. In terms of social problems, loitering and the negative image are the most notable results. Furthermore, the isolation of the socially vulnerable is a trend which needs to be closely monitored.

Lastly, the person types based out of the DISC model gave insight in the different perceptions people have regarding the link between public space and quality of life. For the TKWM area, the analysis of the person types brought forward that the formal blue group does qualify the project area generally as most positive. Also, they give the highest grade for a challenging outdoor space, safety experience, satisfaction with the greenery, satisfaction with housing, recreation possibilities, quality of the parking lots and cleanliness. The negative outlier is not as unanimous, but the active and dynamic red types and the thoughtful and respectful aqua group are found back at the bottom of the list most often. When looking at Wijchen-Zuid, the active red types, cozy lime types and spontaneous yellow types do appreciate Wijchen-Zuid significantly more than the formal blue types. Also when looking at the specific indicators, the active reds are found back on top regularly, opposed by the formal blues at the bottom of the list.

Content

Preface	p. 2
Summary	p. 3
1. Introduction	p. 7
1.1 Background	p. 8
1.2 Problem Statement	p. 11
1.3 Research Aim	p. 12
1.4 Research Questions	p. 12
1.5 Scientific Relevance	p. 13
1.6 Societal Relevance.....	p. 13
2. Literature Review and Conceptual Framework	p. 15
2.1 Public Space	p. 15
2.1.1 Physical Design	p. 15
2.1.2 Social Dimension	p. 16
2.2 Quality of Life	p. 16
2.2.1 Community Development	p. 18
2.2.2 Personal Development	p. 18
2.2.3 Security	p. 19
2.2.4 Health	p. 19
2.2.5 Physical Environment	p. 20
2.2.6 Services	p. 20
2.2 Conceptual Framework	p. 21
3. Methodology	p. 22
3.1 Research Philosophy and Research Approach.....	p. 22
3.2 Research Strategy.....	p. 22
3.3 Data Collection	p. 23
3.4 Concept Operationalization	p. 25
3.5 Validity and Reliability.....	p. 26
3.5.1 Validity	p. 26
3.5.2 Reliability	p. 27
3.6 Data Processing	p. 28
4. Characteristics of Public Space in Wijchen-Zuid and TKWM	p. 30
4.1 The Market Square	p. 32
4.1.1 Characteristics, Design, Maintenance and Intended Use ...	p. 32

4.1.2 Actual Usage of the Market Square	p. 35
4.2 The Center of Wijchen-Zuid	p. 36
4.2.1 Characteristics, Design, Maintenance and Intended Use	p. 36
4.2.2 Actual Usage of Center Wijchen-Zuid	p. 39
4.3 Playground “Hoogmeer/De Ververt”	p. 41
4.3.1 Characteristics, Design and Maintenance	p. 41
4.3.2 Actual Usage of Playground “Hoogmeer/De Ververt”	p. 42
5. Survey Findings Wijchen-Zuid	p. 43
5.1 General Appreciation of Wijchen-Zuid	p. 43
5.2 Quality of Life Study Wijchen-Zuid	p. 48
5.2.1 Health	p. 49
5.2.2 Security	p. 54
5.2.3 Personal Development	p. 60
5.2.4 Community Development	p. 62
5.2.5 Services	p. 66
5.2.6 Physical Environment	p. 68
6. Survey Findings TKWM	p. 72
6.1 General Appreciation of TKWM	p. 72
6.2 Quality of Life Study TKWM	p. 76
6.2.1 Health	p. 76
6.2.2 Security	p. 79
6.2.3 Personal Development	p. 85
6.2.4 Community Development	p. 87
6.2.5 Services	p. 89
6.2.6 Physical Environment	p. 91
7. Conclusion	p. 96
7.1 Answering the Research Questions	p. 96
7.2 Discussion	p. 99
8. References	p. 101
Annex 1: Survey Wijchen-Zuid	p. 106
Annex 2: Survey TKWM	p. 112
Annex 3: Interview guide.....	p. 117

1. Introduction

Public spaces play an important role in the everyday life of the city dweller. In contradiction to the settled spaces of home and work, public spaces provide movement, nodes of communication, playgrounds and green, calm places to relax (Carr, 1992). On a city level, high quality, well designed and managed public spaces are believed to give extra value to the city in an economic, environmental and social manner. These contributions to the city include, amongst others, an increase in economic vitality and higher prices of surrounding property on an economic level, reduced pollution and increased ecological diversity on an environmental level and social integration and an improved quality of life on a social level (Zhang, 2016). It works the same vice versa: neglected public spaces can contribute to spirals of decline. The impression that spaces are not maintained thoroughly works negative impacts like vandalism, anti-social behavior and graffiti in hand (Beck, 2009).

When focusing on the social value of public spaces, the link with quality of life stands out. The positive link between public spaces and quality of life is frequently stated in academic literature (Low et al, 2005; Beck, 2009; Zhang, 2016), but the evidence of this statement is underdeveloped and meagre, which makes it an interesting research topic. According to Beck from the Commission for Architecture and the Built Environment (CABE), the lack of a national evidence base to inform policy agendas relating to people's quality of life makes it difficult to quantify improvements of people's quality of life due to investments in the public realm (2009). The data on people's quality of life which exist do not reflect the reality of people's lives, but are skewed towards easy to measure components. A better understanding in the role of high quality public spaces in achieving a better quality of life is needed to maximize the benefits for city dwellers and their region.

However, policy regarding public space tend to focus on something else. Things get complicated when looking at the nature of cities in comparison to the way in which public places are developed. Everyday life in the present-day city is diverse. Diverse in terms of citizens' social/(sub)cultural/ethnic backgrounds and their different perceiving and accompanying usage of the city. The undermining of this diversity is a threat to present-day strategies in developing public spaces (Atkinson, 2003; Low et al, 2005). Deliberate programs to reduce the number of undesirables (for example homeless, skaters, loiterers etc.) will also reduce the social and cultural diversity of the area. When public spaces appeal to many, but feel oppressive to others, one could paradoxical question the real "openness" of these open spaces. In this sense, public space becomes a controlled, middle-class, purified city experience, without a reflection of the complexity and values of everyday city life (Goldberger, 1996; Atkinson, 2003). In other words, policy regarding the development and management of public spaces tend to welcome only the "stereotype citizens" – like the suburban middle-class white male or the photographing tourist – instead of reflecting the hard edges and

inconsistency of the real city. This discussion will serve as context in which this research will take place. The link between quality of life and public space is the main theme though.

To carry out this research, this research will focus on public spaces in two areas of the municipality Wijchen, because these two areas are both planned to be (re)developed, in which public space has a vital role. This will provide the tools to measure what role public space has in relation to quality of life, since the municipality will actively involve the local residents in the (re)development process. In the first area “Tussen Kasteel en Wijchens Meer” (TKWM), public spaces are important as tools for strengthening the existing qualities, whereas the improvement of public spaces in the second area, “Wijchen-Zuid”, can be seen as a strategy of breaking through the spirals of decline (Gemeente Wijchen, 2016; Gemeente Wijchen, 2017). In both cases the link between public spaces and quality of life will be measured. This will happen with acknowledging and examining the village’s diversity.

1.1 Background

Out of the introduction derive the three main concepts which need to be further elaborated: the main focus is on quality of life and the link with public space. The diversity of present-day neighborhoods will serve as context in which this link will be studied. Lastly, this part will end with a closer look at the two research areas in Wijchen.

Quality of life is a difficult concept to operationalize. It emerged when environmental issues became major problems around the world in the late ‘60’s and early ‘70’s (Proshansky & Fabian, 1986). It is defined and measured in many different ways by not only planners and geographers, but also sociologists, psychologists and economists (Stanca, 2015). All the different uses and connotations of the term quality of life are underlain by a kind of intuitive grasp of general meaning: “Are people living well or poorly? Is life easy or hard? Are people satisfied or dissatisfied?” (Proshansky & Fabian, 1986). In order to answer these questions and to improve the quality of urban life when necessary, the different meanings of the concept are revealed. It makes no sense to find a unifying definition of quality of life, because the nature of urban life and its people need multidimensionality in order to entail all the different specific definitions to be applicable on the different urban settings (Proshansky & Fabian, 1986). Some definitions try to grasp this multidimensionality. The most comprehensive description is given by Mitchell. He says: the components that are of influence to one’s quality of life are (mental and physical) health, the physical environment, community development, personal development, services and (economic and social) security (2000). When looking at the components which are most important in other fields, it is a selection of components stated by Mitchell (Van Kamp et al, 2003). For instance, when focusing on a human-environmental perspective, quality of life is the outcome of the intertwined relationship between – only the components – community, environment and economics

(Shafer, Lee & Turner 2000). The components which are of influence to quality of life are different in the different fields and settings, but most scholars recognize the dependency of quality of life to “exogenous” facts of a person’s life and the “endogenous” perception that a person has of these factors and of him/herself (Szalai, 1980). Szalai says that the given components of quality of life should be determined on the one hand by objective factors of his/her life and on the other hand by the subjective perception he/she has of these factors. So, to bring this back to the relation with public spaces, capturing the influence of public spaces on quality of urban life needs a focus on the objective facts and subjective perceptions regarding the public spaces, alongside the components stated by Mitchell to assure that quality of life is approached in its most extensive form (for details see methodology).

The *quality of public spaces* is the second main concept. The definition of a public space falls into two different categories. On the one hand the debate among members of a community, the public sphere (Habermas, 1992) and on the other hand the physical space, open to the public (Bassand & Güller, 2001). The second category is more applicable in this research. The physical “open space” in which different aspects of urban life – like economics, urban planning and the relationship with the environment – are coming together (Páramo, 2017). The list of ways in which high quality public spaces can improve cities seems to be endless. According to the UN Human Settlements Programme, public space supports the economy, contributes to a sense of civic cohesion and citizenship, fosters social and cultural interaction, enhances safety, improves health and well-being, increases mobility and improves the environment (Andersson, 2016). The assumption that public spaces contribute to a better quality of life seems logic, due to the similarities in the components of quality of life stated by Mitchell (2000) on the one hand and the assumed positive effects of high quality public spaces on the other hand. However, what became more and more important in recent years is the search for equity. How open is the place? In what way is the place controlled? Who feels welcome where? Questions on the real “publicness” of public spaces which are subject to debate and got the focus of present-day city planners (Bélanger, 2007; Low et al, 2005; Páramo, 2017). The word “public” is often used as a synonym for “everyone”. Carmona sees “public” in a more nuanced way: “is not a coherent, unified group but a fragmented society of different socio-economic (and, today, often cultural) groups, further divided by age and gender. Each part of this fragmented society will relate to public space (and to each other) in different and complex ways” (2015). In other words, the biggest challenge about public spaces these days is not *if* they do improve neighbourhoods and cities, but rather if the public spaces are “open” enough to “the public” to give anyone the possibility to profit from the assumed benefits of public spaces. The real challenge is how to life together with the diversity of present-day cities (Low et al, 2005; Hall, 1993).

The *diversity in present-day cities* is the context in which this research will take place. It was not always an important factor in designing public spaces. Rather, the growing awareness of the importance of public spaces in general started off with problems of disuse. In the '80s, William H. Whyte noticed that some public spaces were filled with people and activities, while others were empty and left behind. He started developing rules to make public space livable and welcoming environments, where people could meet, relax and mix. These rules were used by the planning department of New York to invest in the public realm (Low et al, 2005). However, in the 21st century this translated in problems regarding who uses which places and who feels welcome where. Consequently, when places are convivial for some, they are unwelcoming for others as well. Hence, difference became important in the academic debate regarding public space (Low et al, 2005; Hall, 1993). Carmona (2015) recognizes three different categorizations in the literature: "Exclusionary spaces" are focused on the fear of the other and domination by design and management strategies (Malone, 1999; Gehl, 1996), "segregated spaces" focus on the separation of affluent groups from the rest of society (Low et al, 2005) and "scary spaces" are closely linked to exclusionary spaces and are focused on the fear of crime (Atkinson, 2003). Apart from these operationalizations on how public spaces can have in-/exclusive powers, Carmona also summarizes other critiques on public space, in which "ownership" is the main paradigm (2015). Processes like privatization, (Low et al, 2005; Boyer, 1993) homogenization, due to globalization, over-regulation (Beck, 1992; CABE, 2007) and commercialization (Boyer, 1994) determine the nature of present-day public space, because the given owner defines the codes of behavior, laws and regulations in the given public space (Carmona, 2015; Devereux & Littlefield, 2017). When looking at the role of public spaces to the quality of life in the case of Wijchen, this notion of ownership and the associated processes are not relevant, because the given public spaces in Wijchen are all owned by the municipality. Examining possible differences between public and privately owned spaces to one's perception of quality of life is therefore impossible. Hence, this research will only focus on the diversity around public space. In other words, the diversity of the given neighbourhoods have to be acknowledged and described in order to understand the possible different outcome of one's experience of the quality of life.

To examine the role of public spaces to the quality of life, this research is focused on two locations in *the municipality of Wijchen*, namely the project-area "Tussen Kasteel en Wijchens Meer" (TKWM) in the village center and the district "Wijchen-Zuid". Both locations are in an early state of (re)development. In TKWM, the challenge is to remain a vital and appealing place in which living, shopping and recreating strengthen each other (Gemeente Wijchen, 2016). In Wijchen-Zuid, the challenge is to revitalize and develop the district, in order to avert the relatively low socio-economic status (Gemeente Wijchen, 2017). Public space has an interesting role in both of these cases. In the village center, the public place has been redecorated recently, which has led to a more friendly and

green character. However, not all qualities of the surroundings have been connected to the village center yet. In order to make the village even more green and to benefit from Wijchen's rich cultural historical identity, the castle at the north side and the lake on the south side have to connect with the village center (see chapter 4 for details and a map of the research area) (Gemeente Wijchen, 2016; Gemeente Wijchen, 2017). In Wijchen-Zuid, public spaces seem to be the highlighters of the relatively low status of the district, with issues of cluttering, loitering, vandalism and pollution. These issues strengthen the feeling of insecurity and the image of decay (Gemeente Wijchen, 2017). In this sense, the case of Wijchen-Zuid seems to be an example of the way in which relatively low quality public spaces can work spirals of decline in hand (Beck, 2009). The improvement and greening of public spaces in Wijchen-Zuid is stated by the municipality as strategy to avert decay and cluttering (Gemeente Wijchen, 2017). So, in both cases the public space is important, but for different reasons.

1.2 Problem Statement

From the foregoing background emerges that the link between quality of life and public space is a difficult link to make. Still, this link is widespread used in policy documents, without acknowledging the complexity of the concepts and strengthening the link with an evidence base (Van Kamp et al, 2003; Beck, 2009). Furthermore, when talking of this link between quality of life and public spaces, one should be aware of the diversity of present-day cities. In the debate around public space, this debate rules the contemporary discourse (Atkinson, 2003; Low et al, 2005; Páramo, 2017; Tilley & Potter, 2014; Malone, 1999; Hall, 1993). Without this acknowledgement, public space will become a purified city experience, without a reflection of the complexity and values of everyday city life (Goldberger, 1996; Atkinson, 2003).

The two areas this research will focus on are explained in the previous part. During my internship at the municipality of Wijchen it became clear that the redevelopments in both areas should enhance the quality of life of the local residents. But how this can be achieved and how to underlie this with a strong and legitimate plan is difficult. This research found its relevance and need exactly in this emerged vacuum. Finding out the desires and perceptions of these local residents concerning the project areas were the most important tasks in the early stage of the projects and did result in some very interesting feedback. Apart from this relevant feedback, this also demands a clear evidence base of what quality of life means for the people concerned and - especially relevant for this research - how the public space in these project areas influence their perception of quality of life. The usage of the DISC model (see methodology p.26) helped with taking the diversity of the local respondents and the accompanying differences in the outcome into account, creating an all-encompassing story.

1.3 Research Aim

The aim of this research is twofold. On the one hand this research tries to determine how public spaces can contribute to one's quality of life, based on two cases in the municipality of Wijchen. This will contribute to the lack of empirical data which qualify the link between these two concepts (Beck, 2009; Van Kamp et al, 2003). Furthermore, this research will acknowledge and examine the diversity of Wijchen, which contributes to the contemporary debate on diversity regarding public spaces (Atkinson, 2003; Low et al, 2005; Páramo, 2017; Tilley & Potter, 2014; Malone, 1999; Hall, 1993).

1.4 Research Questions

Main Question: **How do residents of different socio-economic backgrounds of the project-areas "TKWM" and "Wijchen-Zuid" experience their local public space and how does this affect their perceptions of quality of life?**

In order to answer this main research question, it is dissected in different sub-questions. These sub-questions will shed light on the individual parts of the main research question and will help to formulate an answer to the main research question.

Sub-Question 1: **What are the spatial characteristics of public spaces in both areas and what was the intended purpose of these spaces by the municipality and project designers?**

Sub-Question 2: **What is the perception and experience of public spaces in both areas on a social level (health, personal & community development, security and services) by the concerned local residents?**

Sub-Question 3: **How are perceived public spaces linked to quality of life of these residents?**

Sub-Question 4: **What are implications for (re)development of these spaces for the municipality and project developers?**

1.5 Scientific Relevance

Mostly, the scientific relevance can be found in the linkage between the quality of life and the quality of public spaces. The widespread use of this link in NGO-programs, academic reports and governmental policies are backed by a scientific gap, leaving it more as an assumption instead of a solid statement (Zhang, 2016; Beck, 2009; Andersson, 2016). Empirical data is needed in order to qualify the elements of public spaces which improve the quality of life and quantify the occasions in which the quality of life is improved due to investments in public spaces. Furthermore, to overcome this scientific gap, public space managers need more and different skills to their purely technical or ecological expertise. The departure point for this is capturing the views and values of local residents linked to the concerned public spaces, in order to create developments in line with actual needs (Cilliers et al, 2015; Malone, 1999). This research tries to contribute to collecting qualifying data of the link between quality of life and public space, while keeping the departure point of participatory planning in mind. In other words, which aspects of public spaces are most influential to the quality of life of the concerned local residents. In this, not only the morphology of the public spaces does matter, but also the influence of public spaces on a social level (security, health, personal & community development and services). This approach will provide an all-encompassing set of qualifying data. This research is too small-scaled in order to contribute to quantifying data as well.

Furthermore, in the contemporary academic literature the debate around diversity in public space is ongoing (Atkinson, 2003; Low et al, 2005; Páramo, 2017; Tilley & Potter, 2014; Malone, 1999; Hall, 1993). This research tries to contribute to this debate by means of a multiple case study which acknowledges diversity in the setting of a relatively small community. The debate is mainly focused on big cities, such as New York (Low et al, 2005), Glasgow (Atkinson, 2003), Melbourne (Malone, 1999) and Barcelona (Páramo, 2017). Hardly any attention is paid to smaller communities.

1.6 Societal Relevance

The underdeveloped evidence base in scientific literature of this link needs a better understanding in order to make it societal relevant as well. Namely, a better evidence base which clarifies this link can help local and national governments so investments in the public realm can be justified. In general, things which cannot be measured easily are overlooked and underestimated the first. Recognition of this link means a recognition of the importance of the quality of public spaces in both success and decline of areas (Beck, 2009). Furthermore, this will strengthen programs' worth and credibility when built upon a strong evidence base instead of assumptions. When looking at the (re)developments in Wijchen-Zuid and the TKWM project-area, citizen participation is crucial in both cases as stated earlier.

This research contributes to shedding light upon the wishes of concerned local residents, which may ease the justification of interventions in the public realm in these two cases based on the quality of life. For the municipality, the information regarding the wishes and desires of the concerned residents is the starting point in both cases. The involvement of this research in the early phases of these projects contributes to operationalizing and analyzing the experienced and desired level of quality of life and the relation with public space in these specific areas. In the case of Wijchen-Zuid, this research is specially societal relevant, since the survey used in this research will be used by the municipality as direct justification for the redevelopments in Wijchen-Zuid which will, hopefully, cause redevelopments in public space that do actually contribute to the quality of life of the concerned diverse local residents. In the TKWM case, this research has solely an advising role.

When speaking of societal relevance, the perceiving and use of public spaces by different people of different social/(sub)cultural/ethnic backgrounds is important as well. The lack of focus on the diversity of cities in developing public spaces can create a paradoxical exclusive place (Atkinson, 2003; Low et al, 2005; Beck, 2009). To measure “the link” a city’s diversity has to be acknowledged and taken into account. The DISC model (see methodology, p.26) will shed light on the unique socio-economic person styles, which cannot be derived from the available statistics from (for example) CBS and GGD.

2. Literature Review and Conceptual Framework

2.1 Public Space

The first main concept for this research, public space, has just as quality of life a complex nature which entails different meanings for different people (Staeheli & Mitchell, 2007). There are a lot of different definitions and functions stated for public space in the academic literature. A clear definition is given by Mehta: public space is “space that is not controlled by private individuals or organizations, and hence is open to the general public” (2014). As stated in the background paragraph, ownership is not that relevant in this research. More interesting is the use and perception of these public spaces, whether or not they are privately owned. One could claim almost everything in the city is public space nowadays, including road crossings and public buildings. This research will limit public space to squares, plazas, parks and sidewalks/streets. Most of the academic literature focuses on three aspects of public space, namely the physical form, the function as meeting place and a site of negotiation (Oosterhuis, 2014), in which the meeting place function appears to be most important in the contemporary discourse (Staeheli & Mitchell, 2007). In this research, the focus will be on the social dimension of public spaces, the way inhabitants of the two neighbourhoods perceive and act in public space, alongside the physical design and conditions of the given public spaces. The conceptual framework attached to these dimensions is schematically shown in figure 1.

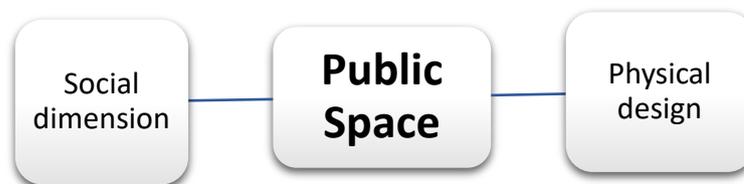


Figure 1: Dimensions Public Space

2.1.1 Physical Design

When analyzing the physical design of public space a lot of different characteristics can be distinguished, such as size, architectural detail, orientation, geometry, scale, connection, enclosure, image, treatments, design details, landscaping, construction, materials and visual appearance (Mandeli, 2011). The approach on public space in this research is on a project level. Within the two given projects “TKWM” and “Wijchen-Zuid” the areas can be divided into two categories, solid and void. Solid areas can be interpreted as all buildings and physical formations on the ground. On the

other hand, void refers to all the open spaces, such as squares, plazas, streets, pathways, courtyards etcetera (Krier, 1979; Carmona et al, 2003). As stated earlier, these examples of void areas will serve as operationalization of public space in this research. The project level of this research means scale is an interesting factor. In contemporary planning principles standardized images and uniform application can lead to the spatial fragmentation of cities (Mandeli, 2011). However, when defining the urban space at a project level, the wider context which provides the continuity of urban space at a city level can be disregarded (Carmona et al, 2003). In other words, the examining of public space in the two areas in Wijchen are interesting on a project level, but need to be seen in a wider context as well to reveal the physical position and role in the wider context. In the analyzing process, this will be done by involving “the general appreciation of the neighbourhood” in the SPSS tests.

2.1.2 Social Dimension

The social dimension of public space is about the use and meaning of these spaces. The last decades of the twentieth century brought along some social implications: individualism and the rise of privacy (García-Doménech, 2015). These implications expanded rapidly and influenced urban planning. Urban models became characterized by isolation of the individual from society, with private property as a norm. The role of public space tend to be more and more practical. The European tradition of compact city models with an important role of public space and collective life got displaced by the new principles of individualism and privacy, leading to a social crisis of public space (García-Doménech, 2015). Although this crisis of disuse was mainly a problem of the late 20th century, increasing commercialization and privatization of public space is an ongoing concern (Grodach, 2009; Low et al, 2005; Boyer, 1993; Boyer, 1994). As stated in the literature study, these processes will not be taken into account in this research. But still, the way in which local residents use and perceive their surrounding public space are vital in both success and decline of the given space and – therefore – will be examined. Related to this, a different perception of public space can mean different influences at one’s perception of quality of life as well. These possible differences are taken into account as well, by using the DISC model.

2.2 Quality of Life

The second main concept, quality of life, will be approached from a very intuitive side: “Are people living well or poorly? Is life easy or hard? Are people satisfied or dissatisfied? (Proshansky & Fabian, 1986)”. A very general grasp of meaning which tries to catch a degree of satisfaction/happiness with one’s life and environment determining overall wellbeing on the basis of tangible and intangible factors

(Cutter, 1985). The interpretation of these factors is difficult to make without skewing them down towards easy to measure components, with an unfair reflection of quality of life as a result (Beck, 2009). Since this research aims at reflecting the different experiences of quality of life for people with different backgrounds, making a selection of factors out of the academic literature that are believed to be most important for this research will limit the heterogeneity of the concept and will prevent the research aim to be achieved. So, in order to include all of the relevant issues, this research uses the components stated by Mitchell (2000). The conceptual model shown below (figure 2) is suitable for this research because it wants to be “sufficiently comprehensive collectively (...) to quality of life measurement” (Mitchell, 2000). Although this is the most sufficient conceptual approach to quality of life, several comments have to be made. The grouping of main components and factors is questionable in some cases. The little role for economy in this scheme stands out most, because this component has a significant role in several other definitions of quality of life (Shafer et al, 2000; Camagni et al, 1998). Furthermore, qualifying “housing” amongst the component “security” instead of “physical environment” is worth mentioning. The explanation that housing has protective qualities in the form of sheltering is undeniably true, but the visual quality of housing as part of the physical environment is at least as important. Nota bene, in the analysis below on each of the different components of quality of life, it becomes immediately clear that each of these components are intertwined and

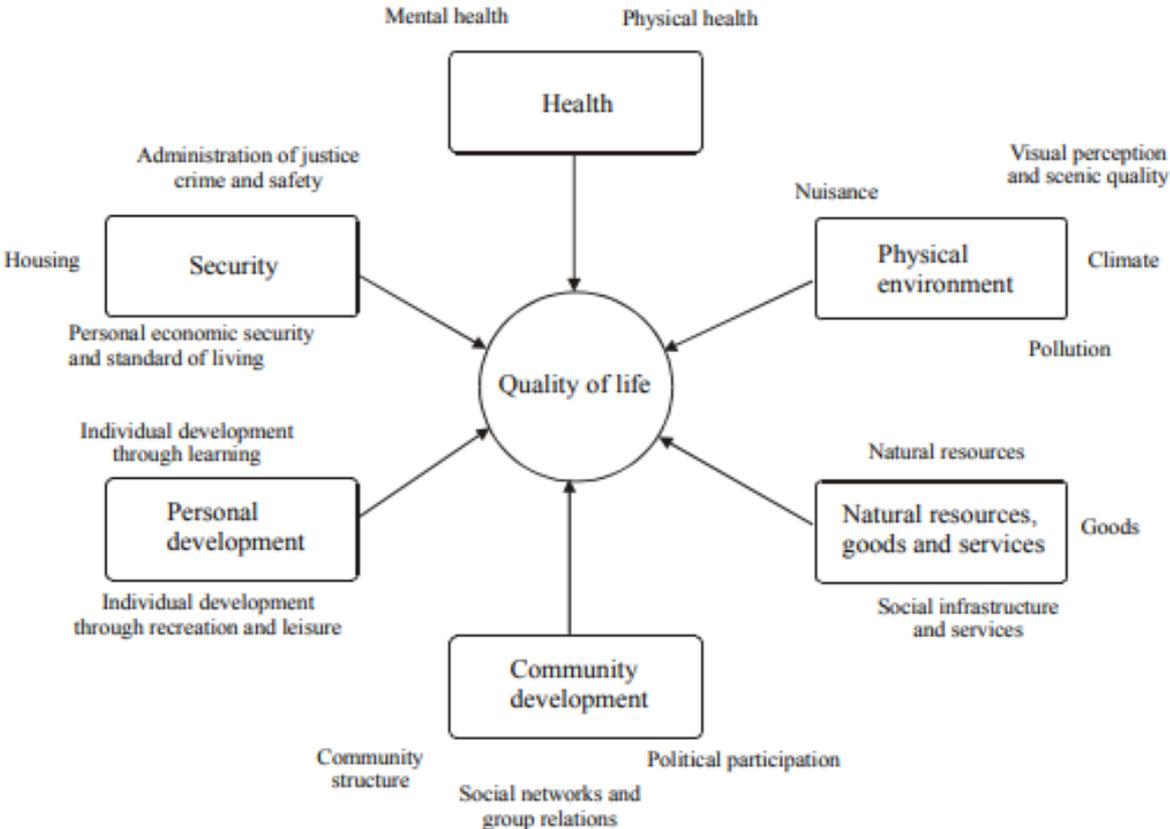


Figure 2: Quality of Life Components (Mitchell, 2000)

interconnected with each other and with the dimensions of public space, which means they will only provide a complete picture of the link between quality of life and public space when seen and analyzed as a whole. In other words, the composition and hierarchy of the different components of quality of life should not be followed too strict. Rather, the value of this model can be found in its extensiveness.

2.2.1 Community Development

In the conceptual model, community development can be divided in community structure, political participation, social networks and group relations (Mitchell, 2000). This means social bonds between people are the main factors which form this component. These social bonds are built upon a sense of community. A sense of community is understood as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (McMillan & Chavis, 1986). The way in which social networks, relations and structures are influenced or guided by public space will give insight in the link between people and space. Since these structures and relations can be built upon many different factors, links with the other components of quality of life (personal development, security, health and physical environment) can be made in all of the occasions.

2.2.2 Personal Development

Personal development can be divided in learning and recreation/leisure (Mitchell, 2000). Out of the academic literature one could hypothesis that public space has a role in the learning process of (in particular) young people. Public space can be a starting point in learning how to enter and participate in society in an effective and creative way (Fielding, 2009). According to Griffiths and Ross, learning “how to take part” in public space is a matter of relationship, belonging and identity (2008). This component of personal development is therefore clearly connected to the earlier discussed community development. In terms of recreation and leisure, public space stands out as a meaningful location that has particular attention by leisure researchers (Johnson & Glover, 2013). As stated by Hou, “public space has been an important facet of cities and urban culture ... they provide opportunities for gathering, socializing, recreation, festivals, as well as protests and demonstrations” (2010). Again, the strong link with community development is clear, but approaching this from the personal perspective will highlight the differences that characterizes “community” in contemporary society (Lloyd & Auld, 2003). Investing in public space by providing leisure facilities has been a strategy of enhancing the quality of life since the nineteenth century already (Coalter, Long & Duffield, 1988). Increasingly however, these investments tend to fulfill a certain economic potential instead of the

contribution to quality of life (Lloyd & Auld, 2003). As argued by Lloyd and Auld, the personal physiological factors which affect the perception of quality of life through recreation and leisure should be the starting point in indicating this link.

2.2.3 Security

The component “security” can be divided in crime/safety, housing and economic security (Mitchell, 2000). Safety is a crucial factor in valuing public space. According to Mehta, the level of safety is the most important reason in the decision to make use of the space, or to avoid it (2014). The perceiving of safety is influenced by a lot of different factors, such as perceived security, maintenance of the area, visibility in the area, the presence of green (bushes, trees, grass, flowers etc.), the presence of water, streetlights, the number of people visiting the area, and the time of the day (Machielse, 2015). The next factor “housing” is an important factor as well. Public space is not a space on its own. In residential areas, like the two cases in Wijchen, public space is interconnected with buildings. The solid and void spaces together determine the visual quality, social stabilization, level of crime etc. (Bonenberg, 2015). To indicate the link between quality of life and public space the housing estates of different quality and social level (and thus with residents from different socio-economic backgrounds) have to be taken into account. That is also the link with economic security. As stated in the introduction, people from different socio-economic backgrounds can have a different definition and therefore a different perception of quality of life. Assumedly, one’s economic abilities are of influence to the perception of quality of life (Goldberger, 1996; Atkinson, 2003).

2.2.4 Health

Health can be divided in mental health and physical health (Mitchell, 2000). Differences in the level of ability, both bodily and mentally, are a key issue when talking about movement in and access to public space (Parr, 1997). These practical notions of access and movement indicate a certain level of participation in society, which can be made difficult in public space for people with special needs. When approaching it from the other side, public side can also enhance people’s health, both physically and mentally. Several studies about this positive link are focused on public green spaces, like parks (Wolch, Byrne & Newell, 2014). On a physical level, green spaces reduce risk for many chronic diseases, stimulate physical activity and are believed to influence obesity patterns positively, to name a few (Public Health Service, 1996; Ogden, Carroll & Flegal, 2008; Wolch, Byrne & Newell, 2014). On a mental level, Barton and Pretty demonstrated that exercises in urban green spaces led to positive changes in the mood and self-esteem of the respondents (2010). The negative impacts of public (green) space to

one's health are mainly expressed in other components, like safety (security) and pollution/nuisance (physical environment).

2.2.5 Physical Environment

This component can be divided in nuisance, pollution, visual perception and scenic quality and climate (Mitchell, 2000). Climate is not that relevant in this research, because not many can be said about the influence of public space to climate or vice versa. If you translate climate into weather, this will probably influence the use and perception of the given public spaces. In that case, weather is connected to the social dimension of public space and relevant for this research. When talking about visual perception and scenic quality of public space, design is an important factor. The design of a space creates the boundary, defines the space and gives it a kind of status and nature. This is all subject to human decisions (Beng-Huat & Edwards, 1992). Apart from the design of the space, perception and scenic quality is based upon the use and management, in other words the social dimension of public space (see 2.1.2) (Poon, 2017). The factors nuisance and pollution are both crucial in the choice if someone wants to “be” in a public space, or wants to avoid it. These two factors can contribute to a feeling of insecurity and are therefore strongly correlated with the component “safety” (see 2.2.3) (Fanghanel, 2016).

2.2.6 Services

In the model about quality of life as developed by Mitchell (2000), the dimension “services” is accompanied by the indicators “natural resources” and “goods”. In this research on public space, these two indicators are hard to assimilate. Although the aim is to approach quality of life in its most comprehensive form, these two indicators are left out. The natural resources and goods that have been used to create the public space can be understood as part of the physical environment. This dimension will therefore exist out of the indicators “social infrastructure” and “services”. Social infrastructure is an important indicator when talking of the participatory planning, which is highly valued in both projects. The local residents are actively involved in the (re)development processes. With this indicator, the actual involvement will be measured. For the second indicator “services”, the aspect which has the closest ties with public space is the parking facility. Furthermore, services around the public spaces like shops, restaurants, community centers etc. are part of the “the wall” around public space and can be important for the nature of the given public space (De Waard & Rodenburg, 2007). They state in their book that present-day urban planners support the position that the quality of squares is not determined by the open space itself, but by buildings surrounding it.

2.3 Conceptual framework

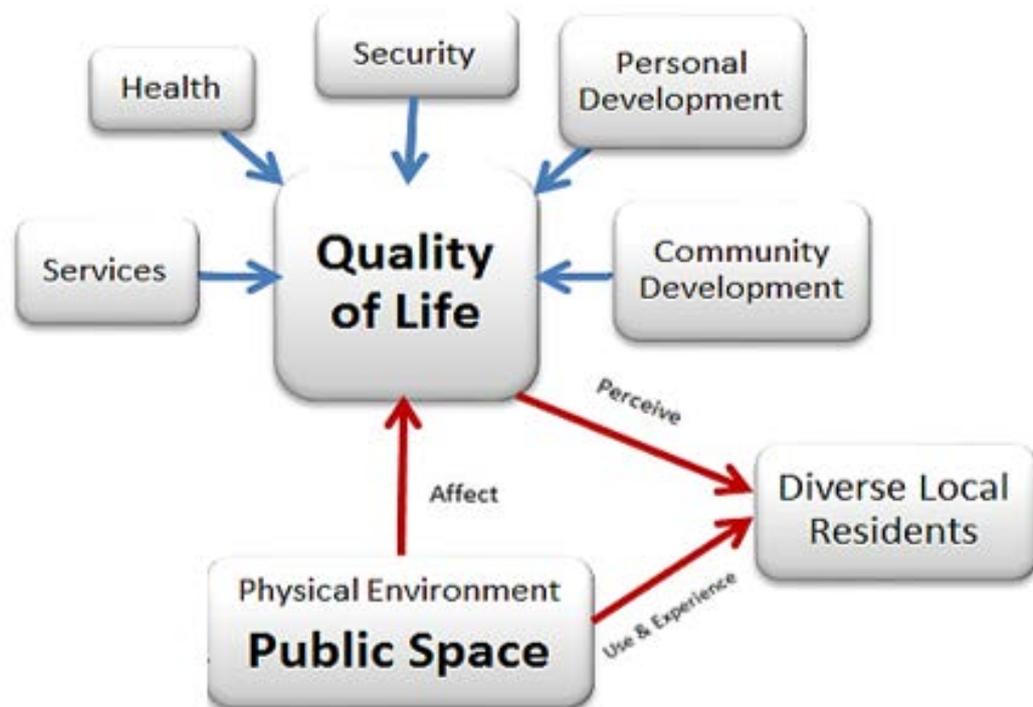


Figure 3: Conceptual Framework

In the foregoing conceptual framework, the components of this research are schematically shown. The two main concepts – public space and quality of life – are displayed in boldfaced words. This framework starts with “quality of life” on top. The different indicators, which are explained on the previous pages, are linked to the main concept with blue arrows. The indicator “physical environment” has a special role in this research. Public space is admittedly a main concept, but it is a part of the physical environment as a whole. And thus, just a part of the physical environment in the general study of quality of life. Therefore, public space is included in the indicator “physical environment” out of the quality of life theory by Mitchell (2000). The main stakeholder concerned in this research – the diverse local residents – is shown on the right side. The diverse local residents are connected to both main concepts. In this research, the aim is to find out how public space is used and experienced by the local residents of different socio-economic backgrounds of both project areas and how the perception of quality of life is affected by these public spaces. This main question is visualized with the red arrow triangle in the center of this conceptual framework.

3. Methodology

3.1 Research Philosophy and Research Approach

To discover the relevant research philosophy for this research, ontology and epistemology helped with determining the way of thinking that has been used. Ontology is the philosophical field which refers to the nature of reality, the way in which reality is shaped. Epistemology is the philosophical field which refers to the study of knowledge (Saunders, Lewis & Thornhill, 2009). The epistemological interpretivist position assumes that research of subjective meanings is needed in order to understand the actions of individuals engaging in social interaction (Saunders, Lewis & Thornhill, 2009). This view fits well to this research, since perceptions and experiences of local residents in regards to public space and quality of life ask for such subjective meanings and cannot be investigated using scientific methods applied to the natural world.

The applied research approach should connect to the above choice. Saunders et al. (2009) distinguish inductive and deductive research. Interpretivism is an inductive practice, which means that the researcher drafts a theory on the basis of empirical data (general – specific), instead of testing a hypothesis based on preliminary knowledge in the given domain as is done in an deductive research (specific – general) (Bryman, 2008). This research is mainly of a quantitative and interpretative nature. This means this research is theory-forming. No preliminary theories will be tested, but structure in the data will be searched for.

3.2 Research Strategy

For this research into the role of public spaces in one's quality of life in two project areas of Wijchen, a case study in both neighbourhoods will be the research strategy. As stated by Yin, a case study is needed when a contemporary phenomenon (in this research "quality of life") is examined in its real-life context (public space) (1981; Vennix, 2011). The choice for a multiple-case design is built upon the comparative strength they have. The case of TKWM is interesting in terms of the further strengthening of existing qualities of the area and the significant role of public space in this process, whereas the case of Wijchen-Zuid is interesting for opposite reasons. The public spaces in this neighbourhood are highlighters of the relatively low status and image of decay (Gemeente Wijchen, 2017). Furthermore, they are also at the other side of the spectrum in terms of earning money. In the four neighbourhoods of Wijchen-Zuid, the average income is €20450,-, the average income in the municipality is €23700, with €27000 in the village center (CBS, 2017). Lastly, the selection of these two contradictory cases is mainly practical: both projects are relatively huge area developments for the municipality of Wijchen

and kicked off at the start of the researcher’s internship, which gave aplenty of opportunities to actively involve this research in both highly interesting projects. Assumedly, the evidence which will derive out of these two cases is more compelling and the overall study more robust than a single-case design, because the main question will be approached from two different angles (Yin, 1984). To get to know the context around public spaces, the underlying ideas and the perceptions and experiences of quality of life, both qualitative and quantitative methods will be used; a triangulation of methods, namely in-depth interviews, unstructured observation, a questionnaire survey and a literature study. To organize these four methods a simultaneous design was used (Morse, 1991; Johnson, Onwuegbuzie & Turner, 2007), because limited interaction between the quantitative and qualitative data was needed during the data collection stage. The starting point of this research was the qualitative part (unstructured observation and interviews) after which the quantitative part (surveys) took place. The interpretation of the datasets from both the qualitative and quantitative parts took place at the end in order to provide flexible space for the triangulation of methods and to give a complete picture of the link between public space and quality of life. The use of a mixed methods design has a lot of advantages. The following stated advantages serve as justification for using a mixed methods design in this very research: the triangulation of methods will ensure the internal validity, the use of mixed methods will entail complementary results about the different facets of the research, it had a greater chance of uncovering contradictions and it allows the researcher to be more confident of the results (Creswell, 2003; Vennix, 2011; Plano Clark & Ivankova, 2016; Johnson, Onwuegbuzie & Turner, 2007).

3.3 Data Collection

Let us have a closer look at the first part: the qualitative methods. In order to answer the first and fourth sub-question, interviews have been carried out (see the interview guide in annex 3). These in-depth interviews took place at the municipality of Wijchen with policy advisors involved in designing and managing public space to get to know the underlying ideas, policies and processes behind public space development in the municipality of Wijchen. Table 1 provides more information about the

Respondent	Field	Expertise
1. Senior Preparation & Execution	Design	Preparation Public Space
2. Project Manager Public Space	Design	Preparation Public Space
3. Senior Policy Advisor Physical Environment	Design	Urban Water Management
4. Project Manager Spatial Maintenance	Maintenance	Management & Maintenance
5. Senior Policy Advisor Public Order & Safety	Maintenance	Integral Safety
6. Policy Advisor Social Environment	Social	Health & Well-Being

Table 1: Respondents

respondents. Furthermore, to discover relevant schemes and to get to know what is happening in the public spaces in the two project areas, unstructured observation is carried out. This strategy provided information about the physical setting, the context, the participants (and their characteristics) and the rhythm of activities (McKechnie, 2008). This type of observation entails the possibility to enter the field with some general ideas, but not of what will be observed specifically, which makes this approach suitable to grasp the context in the early stage of the research (Verschuren & Doorewaard, 2010; Vennix, 2011). These observations will help in answering the first sub-question. In practice, these observations consisted out of sessions of 30 to 60 minutes in both project areas (for the exact location see page 26) of describing what is happening in the concerned public spaces. Direct describing of what you see was crucial for this research strategy. The longer you wait with recording the observations, the more will be lost from conscious awareness (Gold, 1958; Jorgensen, 1989). When doing this, a distinction is made between the objective description of what is happening and own interpretations in order to secure the reliability of this method (Vennix, 2011). The nature of this unstructured observation can be characterized as a complete observer role. This means the researcher was completely removed from social interaction with people in the concerned public spaces (Gold, 1958).

The second, quantitative part, consists out of surveys sent to all households in both project areas (for TKWM: 275 households with 397 inhabitants. For Wijchen-Zuid: 1653 households with 3460 inhabitants) in order to find out the desires and opinions on the public spaces which are planned to be developed. Thus, the respondent selection is based on address. The sent envelope gave the choice between filling-in the survey hard-copy or online. The output of this quantitative part gave answer to the second and third sub-question. The reason to use a survey for this research is mainly due to practical reasons. Using in-depth interviews for this will mean qualitative better information. However, the sample will be much smaller due to the limited time for this research, which is problematic for acknowledging Wijchen's diversity. To reach as much people as possible a survey is the solution (Vennix, 2011). To make sure that the gathered information will be as qualitative as possible, several open questions have been included. The survey for Wijchen-Zuid is more extensive than the TKWM one, since the former survey is the basis for a quality of life study for the municipality as well. However, the structure, lay-out, and usage of the conceptual framework presented in this report is the same in both surveys (see annex 1 and 2 for the surveys). The TKWM-survey is sent to the local households in the name of this research, making use of the facilities of the municipality. The Wijchen-Zuid survey is sent to the local households in the name of the municipality, assisted by data analysis firms 2Gather and Discvision.

3.4 Concept Operationalization

In order to measure the role of public space in quality of life the components of Mitchell (2000) are used (see p. 18). These components are the basis of the questions that are used in the surveys. Seeing these components in relation to the public spaces creates the possibility to qualify the most important components of quality of life which are influenced (either positive or negative) by the public spaces. Thus, “the role” of public space to quality of life is operationalized as the either positive or negative influence of public space to respondents’ experience of the concepts health, physical environment, community development, personal development, services and security (Mitchell, 2000).

What needs a further operationalization also is the qualification of respondents for this research. In the course of this research the respondents for the surveys are called “inhabitants of the two neighbourhoods” and “users of the public space”. Both of these qualifications are suitable for the respondents, but they cannot be seen apart. When looking at the case of Wijchen-Zuid, assumed is that all the inhabitants are more or less familiar with the concerned public spaces, since these spaces are crucial nodes of these neighbourhoods in Wijchen-Zuid (Gemeente Wijchen, 2017). When looking at the TKWM project-area, people who live further away or are just visiting Wijchen are not suitable for this research, as they are – in some cases – not familiar enough with the place and because not all components which relate to quality of life are relevant in that case (for example “housing”). Furthermore, other stakeholders in the process of developing and managing public space, like local shopkeepers, housing corporations etc. are also not relevant for this research, since their interests by, and usage of, the public spaces are also based upon their business. To prevent this research from becoming too bulky, the role of public space in “the quality of business life” is left out.

The operationalization of the diversity of the respondents in terms of socio-economic backgrounds is done by using the DISC model. This model gives insight in the behavior and communication based on preference (DISCvision, n.d.). Every human’s preference and behaviors is unique due to these personal socio-economic backgrounds. In practice, this complex reality is made manageable with a division in four quadrants: Introvert and extrovert on the y-axis, and task-oriented and community-oriented on the x-axis (Marston, 1928; DISCvision, n.d.). Since the DISC model makes use of intermediate forms between the quadrants, this leads to eight different person types, schematically shown in figure 4 on the next page. According to a validation study by the Texas State University, the DISC model gives an internally consistent and reliable view of one’s socio-economic personality based on these eight “person types” (Price, 2015), which makes it a very suitable model for acknowledging the varied socio-economic backgrounds in Wijchen. These eight types are made insightful by submitting propositions to the respondents (which can be found back at the end of annex

1 and 2). In the analysis of the overall data, the outcome of these propositions will unravel the - possible - different perceptions of quality of life.

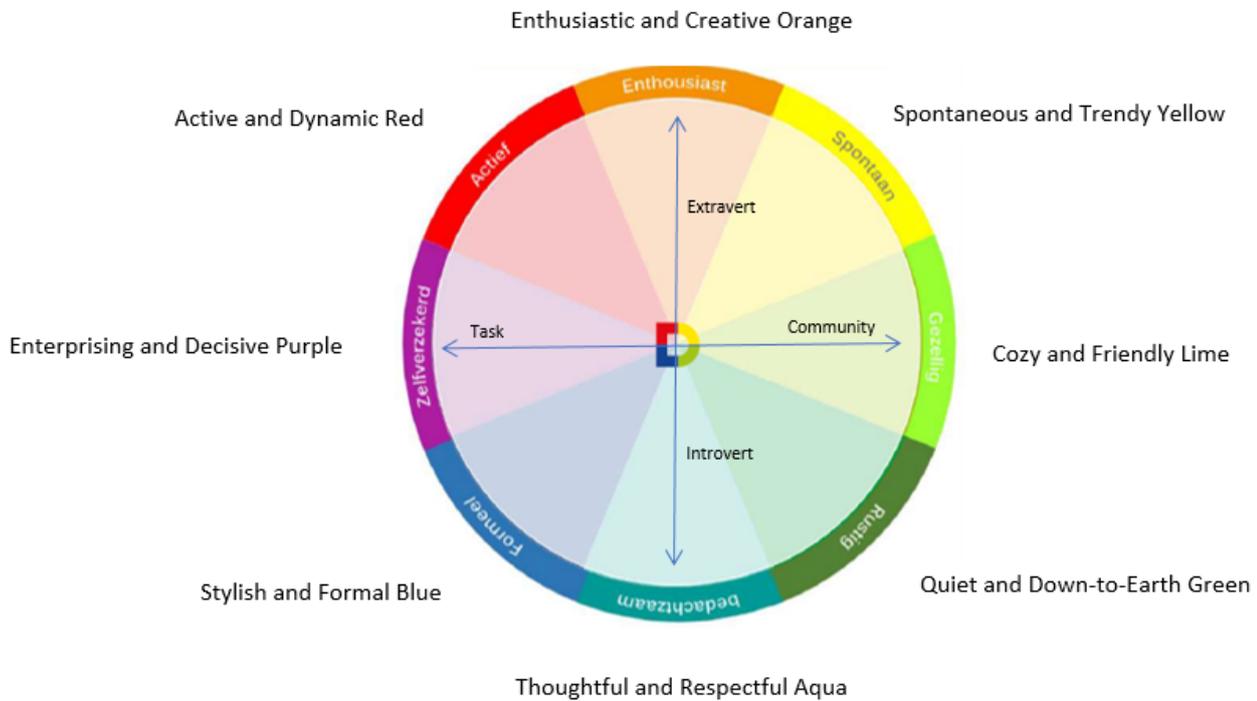


Figure 4: Disc Model

3.5 Validity and Reliability

3.5.1 Validity

Validity consists out of four different kinds: content validity, concept validity, internal validity and external validity (Korzilius, 2000). Content validity refers to the question if the measuring instrument is in line with the concept to be measured (Vennix, 2011). In this research, the question is whether the operationalization of quality of life and public space is a reflection of the reality in Wijchen. To make sure that the content validity is as high as possible, a decent literature review is needed to see how previous researches have dealt with the concepts (Vennix, 2011). The literature shows that the operationalization of quality of life based on the model of Mitchell (2000) is the most comprehensive that can be found (Van Kamp et al, 2003; Proshansky & Fabian, 1986; Szalai, 1980). Also the broad view on public space, based on the work of (for instance) Mandeli (2011), Krier (1979) and Carmona et al (2003) add to the all-encompassing nature of the conceptual framework. Comprehensiveness is absolutely crucial in order to achieve the research aim.

Concept validity refers to the coherence between the different concepts and variables of the research (Korzilius, 2000). This coherence stems from the literature and is tested after data collection. The aim of the literature study was to find preliminary relationships between the main concepts and it did show strong coherence between factors that influence one's quality of life and the benefits of a high quality public space (e.g. Andersson, 2016; Zhang, 2016; Beck, 2009). The specific relationships between the two concepts have been tested during the analysis part.

The third kind of validity is the internal validity. This type is about the legitimacy of the research. To what extent is the research consistent? To what extent is it possible to draw conclusions on the basis of this research? These are questions that relate to the internal validity (Vennix, 2011). This is guaranteed by using a triangulation of methods, namely in-depth interviews, unstructured observations, questionnaire surveys and a literature study. With this, the researcher can be more confident with the results, since they have been gathered in different ways and since the data is provided by different sources. Therefore, comparisons can be done and legit considerations are made when necessary. Footnote here is that internal validity is also increased when making use of control variables. This research consists of plenty of SPSS tests and all of the different aspects are discussed several times, but the tests on their own would have been more powerful in an explanatory manner when they were enriched with control variables.

The last kind of validity is external validity. This type is about the legitimacy of the results of the research. The research is external valid when the results can be generalized to the entire population (Korzilius, 2000; Vennix, 2011). Since all of the households in the two project areas received the survey, no sample has been used. This means everyone had an equal chance of participating in the research. Footnote: every member of the household had access to the survey by giving multiple options to fill in the survey, but this is not clearly communicated in the attached introduction letter. Presumably, the way of communication led to just one member of a household to fill in the survey. But still, there is no sample. This only changed the sample unit from 1 person to 1 household (Burns & Bush, 2000).

3.5.2 Reliability

Systematic measurement errors relate to the above explained validity. Accidental measurement errors on the other hand are of influence to the reliability of the research. A reliable research entails a stable measurement, independent from researcher, measurement instrument and time (Korzilius, 2000; Vennix, 2011). The reliability is especially dependent on the number of respondents and thus, the response rate of the local residents. When using 1 household as sample unit, the response rate for the TKWM-project is high. From the 275 sent surveys, 85 people responded. But the margin of error of the

results is unfavorable with 8,85%. This means for this very survey, when 50% of the respondents says “yes” on a given question, it is 95% sure that between 41,15% and 58,85% of the total 250 households will say “yes”. The reliability of the response in Wijchen-Zuid is way better: out of the 1653 sent surveys, 350 people responded. This means a margin of error of 4,65%, which is surely acceptable since the usual margin is set at 5% (Kish, 1965). This means for this very survey, when 50% of the respondents says “yes” on a given question, it is 95% sure that between 45,35% and 54,65% of the total 1653 households will say “yes”. The reliability of the research is increased by asking not only open questions in the survey, but also a lot of closed-ended questions. By using these types of questions, no additional translation is needed. Therefore, no accidental measurement errors can occur.

3.6 Data Processing

Considering the different methods used in this research, there are different data processing methods as well. When looking at the qualitative methods first, the observations and interviews are analyzed using ATLAS.ti. This program has been used to keep the analytical process transparent. For the interviews, the transcripts have been classified with 97 codes, divided into seven code groups, namely:

- Issues regarding public space development;
- Functions of public space;
- Operationalization quality of life;
- Social matters;
- Issues in public space;
- Qualities of public space;
- Operationalization public space.

The notes of the observations have been assigned with 159 codes in total. These are divided into ten different code groups, namely:

- Activities;
- Animals;
- The weather;
- Interaction;
- Personal characteristics;
- Maintenance;
- Sounds;
- Incidents ;
- Characteristics of the location;
- Means of transportations.

For the surveys, the program SPSS has been used. In most of the tests, logistic regression analysis has been used. Before using this test, the variables have to meet four assumptions:

- ✓ The dependent variable is dichotomous. The independent variables are scale/ratio or dummies.

The variables do meet this assumption. The dependent variables used for the tests do have two opportunities: yes or no. The independent variables are all of scale/ratio nature.

- ✓ The link is theoretical causal. The dependent variable is influenced by every independent variable.

Judging by the theoretical framework, this research does meet this assumption.

- ✓ The model is linear.

- ✓ There is no multicollinearity.

Multicollinearity exists when the tolerance measure has a low value. A value of 1 indicates no correlation. A value of 0 means a perfect correlation. Apart from tolerance, another measurement exists, namely VIF. A value of 2 means strong correlation and a value of 1 means no correlation. Thus, both values should be around 1 (Foster, Barkus & Yavorsky, 2006). This is the case in this research.

Alongside logistic regression analyses, the Pearson's r and Spearman's r have been used to a lesser extent. The Pearson's r has been used when two true dichotomous variables (always yes/no questions) have been calculated on correlation. The correlation between two true dichotomous variables is called a phi coefficient and can be computed by obtaining the Pearson's r (Warner, 2008). The Spearman's r test has been used when two variables of a scale level have been tested on correlation. The two assumptions that have to be met are:

- ✓ The variables have to be on an Interval/ratio/ordinal level .

The "scale" variable in SPSS is applicable here.

- ✓ The variables have to be monotonically related.

This means that the function is one that either never increases or never decreases as its independent variable increases. This assumption is met in this research.

4. Characteristics of the Public Space in Wijchen-Zuid and TKWM

“Public spaces play an important part in the everyday life of the city dweller. Other than the settled spaces of home and work, public spaces provide movement, nodes of communication, playgrounds and green, calm places to relax” (Carr, 1992). In this quote from landscape architect Stephen Carr, the notion that public space plays a vital role in one’s daily life asks for a closer look at the public spaces in the two neighbourhoods in Wijchen on an ‘everyday scale’. In order to get to know the spatial characteristics of the spaces, to unravel taken-for-granted activities and to discover the schemes and habits of the users, participant observation has been carried out. These observation sessions gave a clear insight in the nature of the public spaces concerned. In addition, the story behind the public spaces was researched by doing six interviews with those involved in designing and maintaining public space at the municipality of Wijchen, combined with desk research of relevant policy documents. First, let me introduce you to the two project areas. The “Tussen Kasteel en Wijchens Meer” (TKWM) project area is located at the east side of the village’s center. In figure 5 the lots belonging to the project area are highlighted. The area stretches out from the village’s castle (green circle on top) till the northern banks of the village’s lake (green circle below). The lots in between consist out of (from north to south)

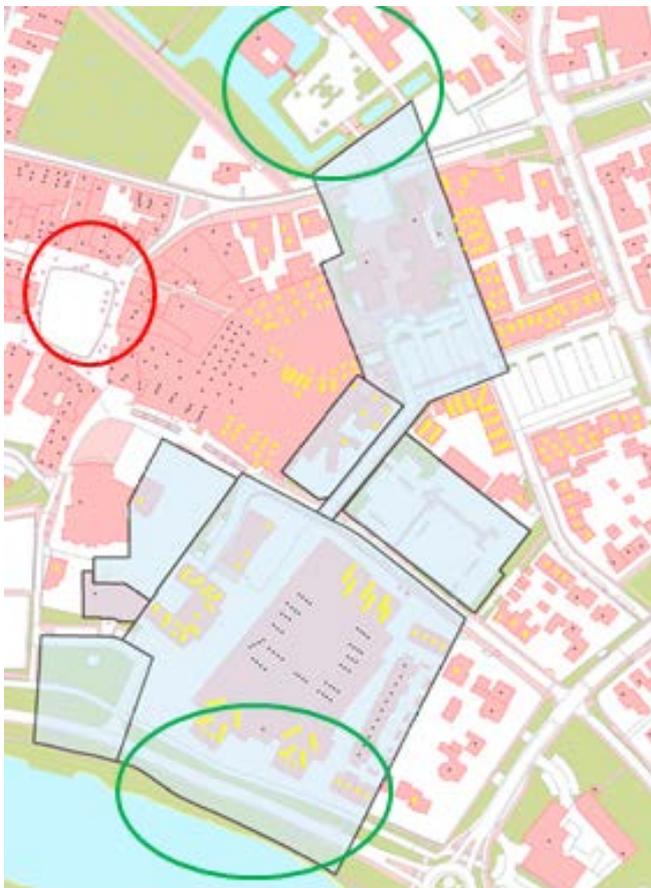


Figure 5: Project Area TKWM in the Village Center (Gemeente Wijchen, 2016)

the former municipal office, two parking lots, a building block not owned by the municipality and the already finished apartment blocks “The Oostflank”. The yellow dots in this picture are the 275 households that received the survey, selected by the GIS-expert of the municipality of Wijchen. The red circle is the market square and served as location for the unstructured observation, an unorthodox choice, since it is not an actual part of the project part. However, it is located almost adjacent to the project area and it is explicitly named by the municipality as example how the project area should feel and look in terms of style and appearance (Gemeente Wijchen, 2016; Gemeente Wijchen, 2008). The lots of the project area do entail public space, but there are way less suitable for observation than the market

square, e.g. due to size and function. These reasons justify the market square as most suitable observation location here. Figure 6 shows the four neighbourhoods in Wijchen-Zuid which are of importance for this research, namely Diepvoorde, Huissteden, Hoogmeer and De Ververt. The district itself consists of several other neighbourhoods, but according to a quick-scan carried out by urban design agency Spacevalue and the municipality, these four neighbourhoods located adjacent to one another around the district's center are the main highlighters of the relatively low image of the district. Furthermore they are built in the same era and are therefore similar in structure and also in terms of social and design related issues, making these four neighbourhoods together a homogeneous area (Gemeente Wijchen, 2017). As displayed in figure 6, the infrastructure strengthens this uniformity in a spatial way. The bold arrow line which "embraces" the neighbourhoods is "the Zuiderdreef", a 50 km/h road demarcating the boundaries of the upper part of Wijchen-Zuid and the rest. The two green circles in figure 6 represent two playgrounds within this area. The red circle represents the center of Wijchen-Zuid, consisting of a public area in front of a school, community center and mall. These places will be the reference points for examining the current spatial and social situation (by means of unstructured observation) and are parts of the research area as well. Although no public space is located in Hoogmeer, this neighbourhood is still relevant, as named highlighter of the spirals of decay (Gemeente Wijchen, 2017). Also, all three public spaces are located directed alongside the neighbourhood, making these spaces equally important in the daily life of those living in Hoogmeer, assumedly.

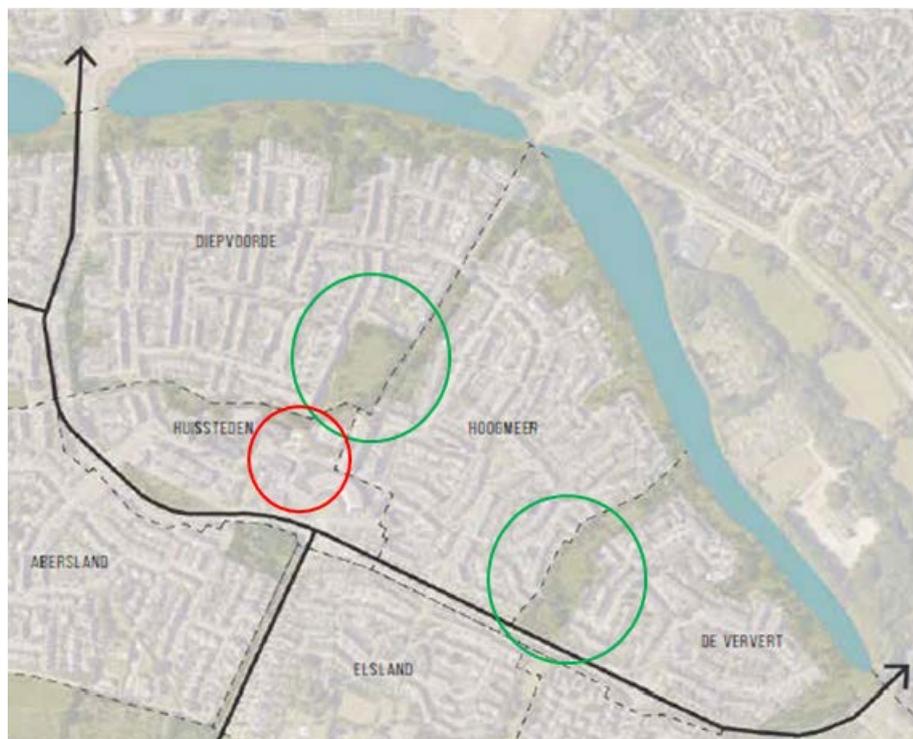


Figure 6: Public Spaces in Diepvoorde, Huissteden, Hoogmeer and De Ververt (Gemeente Wijchen, 2017)

4.1 The Market Square

4.1.1 Characteristics, Design, Maintenance and Intended Use



Figure 7: The Market Square and the Plane Trees Coming into Leaves

The market square serves as observation location for the village's center project "Tussen Kasteel en Wijchens Meer" (TKWM), as stated in the previous section. The square consists of a concrete block surface surrounded with plane trees (Gemeente Wijchen, 2008; Policy advisor municipality Wijchen, 2018). Behind these trees, several stores, cafes and restaurants are located. A water pump with lantern on top marks the middle of the square (see figure 8, next page). During the observation period, from March up to and including May, the look of the square changed drastically, because of the plane trees coming into leaf (see figure 7). The square has a greener character due to the leaves, but the view towards the surrounding buildings is blocked. Furthermore, the terraces of the cafes are less visible due to the shade.

The last redesign of the market square dates from 2008. Both horizontal aspects (pavement, street furniture, trees and lighting) and vertical aspects (appearance of and materials used for façades and buildings) of the market square were recorded and redesigned when necessary, as part of a larger redevelopment project to improve the village's center (Gemeente Wijchen, 2008). In a letter from the municipality, the aim of this redevelopment as a whole is described as follows: "Creating an accessible and attractive village center in which the special cultural-historic qualities of Wijchen are more connected with each other. The central shopping area becomes compact and comfortable, and the green areas and iconic landmarks, such as the mill and the castle are used more often (Gemeente Wijchen, 2005)."

To achieve this aim, some changes needed to be made in the market square. The most drastic change was a complete renewal of the pavement, consisting of baked material and natural stone types



Figure 8: Overview upon market square

at the edges of the square in the same style as the surrounding shopping streets. The aim was creating a city center that expresses a traditional craft atmosphere (Gemeente Wijchen, 2008). According to one of the policy advisors of the municipality who was actively involved in redesigning the market square, small details, like the city coat of arms displayed on the specially designed street furniture and a reference to the horse markets which were organized on the market square in the past, contribute to a sense of recognition and reflect the cultural-historic value of Wijchen. According to him, these interventions in the physical environment increase the quality of the market square (2018). Overall, the statement that the market square is of high quality is widely supported among the interviewed policy advisors. The straight and smooth surface is qualified as functional and well passable (2018). According to the “structure sketch” of the municipality and cooperating landscape architects, a last aspect of the physical environment of the square that increases the quality of the square is the line of shape of the plane trees, which positively emphasizes the structure of the square (Gemeente Wijchen, 2008). In contrast to these qualities, two drawbacks are named by policy advisors in terms of design. Firstly, the gutter and height differences at the edges are dangerous for the blind and visually impaired and are a barrier to people in wheelchairs and other vehicles for the disabled/elderly. Secondly, the straight surface cannot cope with heavy rainfall and other drain related issues (2018).

In their book on citizen participation (in which the redevelopment of the market square in Wijchen serves as an example), De Waard and Rodenburg state that the necessity to include the market square in the broader center redevelopment project is based on the finding that the market square was more of a “public space by chance” than an appealing square with its own character (2007). Also in the structure sketch, the municipality fears that the square would become a misfit, if it were not included in the broader redevelopment (2008). In general, urban planners support the position

that the quality of squares is not determined by the open space itself, but by “the walls” (De Waard & Rodenburg, 2007). In their book, De Waard and Rodenburg state that the buildings surrounding the square, the entrance of the market promenade and the row of plane trees are seemingly not designed to give the market square its own character. Rather, they stand on their own (2007). Based on the structure sketch (drafted with cooperating landscape architects MTD), the importance of the surrounding buildings for the character of the market square in Wijchen is acknowledged (Gemeente Wijchen, 2008), but the notion that the current situation of this vertical aspect is lacking unity and quality is not recognized. Most of the built environment surrounding the square consists of pre-war and historical buildings, supplemented with buildings from all different ages. Due to the organic development of the village center, the municipality sees the diversity of architectural styles as a visual quality, in which the different façades – with a few low-quality exceptions – add to a lively and varied street scenery (Gemeente Wijchen, 2008).

A high maintenance level is assigned to the market square. According to the maintenance policy advisor, maintenance levels are structured in category A, B, C and D, in which A is the highest level, only achievable with new construction and D is maintenance only to avoid safety hazards (not used in Wijchen). The market square, the center areas and some of the residential areas are assigned level B. The more outside areas, such as the business parks, are assigned level C (2018). The actual maintenance is based on the state of the components roads, weeds, street furniture, landscaping, monuments and cleanliness (Gemeente Wijchen, 2017). There are several maintenance groups which keep an eye on both the public spaces and nuisance issues (Policy advisor municipality Wijchen, 2018). In terms of nuisance, the market square has no structural incidents. However, when looking at the specific TKWM area (see figure 5, p. 30), three spots are named by the safety policy advisor as focus points, namely parking lot “the Bolster”, the castle area and the “Europaplein”, a square connected to the market square by a small indoor shopping mall. Here, nuisance such as loitering, noise disturbance and littering are reported frequently. However, this situation does not seem to escalate (2018).

The intended use of the market square is twofold. On the one hand it is a part of the inner-center infrastructure. The square is literally and figuratively the center of Wijchen. All of the main shopping streets come together in this square. The aim of the municipality is to forbid biking in the city center, but this is not the reality now (Gemeente Wijchen, 2008). Riding bikes in the square is discouraged by bicycle brackets outside the market square. This is presently the only measure to reduce bike use in the square. Also suppliers for the cafes, restaurants and shops on the market square are allowed to drive cars and vans onto the square itself. On the other hand the square is an important facilitator of different activities, namely the weekly market, a fair, “terrasjes” of the cafes and restaurants and diverse shops for recreational shopping purposes. The size of the market square is big

enough for these purposes, but small enough to guarantee the village atmosphere (Gemeente Wijchen, 2012).

4.1.2 Actual Usage of the Market Square

“The most important function of public space? Staying and moving, I would say” (Policy advisor municipality of Wijchen, 2018). Based on the observations, the activities in the market square can indeed be subdivided into these two categories. When talking of staying in the square, the most obvious reason to stay are the “terrasjes”: outside seating areas in front of the cafes lining the square. This observation period took place in a sunny springtime, so these areas were popular places to linger over drinks or a snack; Both in the morning and in the afternoon. Furthermore, the square is frequently used as a meeting ground. The square serves as a point to meet up and continue together from there on. Especially the young use the square for this purpose. When looking at adults, meeting is a more accidental activity. Seeing a friend at a café table or in the square is a frequent reason to stay a little longer and have a chat. Presumably, due to the modest size of the municipality of Wijchen, the chance to run into someone you know is relatively high in comparison to large city squares. A next reason to stay in the square is the possibility to play. Children make frequent use of the water pump located at the middle of the square. Furthermore, the straight and smooth surface of the square invites children to play on scooters and hoverboards. Except for the playing kids, staying in the square mainly happens at the edges, where the café tables and the – also frequently used – benches are located. Some spots at the edges are used by elderly people to park their walkers or mobility scooters. From these places they observe the everyday activities taking place in the square. Lastly, during the observation sessions, several activities happened just once or a few times. Therefore they had only a minor influence on the overall nature of the square. These activities include lobbying advertisers, people walking their dogs, maintenance activities (cleaners and waste service), setting up the seating areas in front of the cafes and sparse moments that nothing was happening at all.

The middle part of the square is especially used for the other category of activities: moving. The fact that cyclists and destination traffic are allowed onto the square was quite obvious during the observation sessions. This has several consequences for the nature of the square. Especially in the morning, the square is full of trucks and vans, which are parked right in the middle of the square, but sometimes also block access roads and the entrance to the indoor market promenade on the east side of the square. The roaring engines define the soundscape at these moments. But in the afternoon as well, the presence of vehicles is a common occurrence. The suppliers and vehicles sometimes cause dangerous situations with the pedestrians and cyclists. The fact that the market square is the central part of the village center is also clearly illustrated by the moving flows of pedestrians and cyclists. On

all four corners of the square, access roads distribute the public towards the different areas of the village center. This causes many diagonal movements across the square. Also, the large share of elderly people residing adjacent to the market square is recognizable by the large number of wheelchairs, walkers and mobility scooters which pass through the square. In contrast to the very old, the very young are also well present in the square with even higher numbers of observed prams. The flat surface of the square does not seem to cause any problems in terms of accessibility of the square for these vulnerable groups (apart from occasional difficulties with the small gutter at the edge of the square).

Apart from the use of the market square by people, it is also characterized by the objects which can be found on it. In addition to the already mentioned café tables, benches and water pump, other objects are located at the edges, which form this square. Namely, parked bicycles/mopeds, advertising signs and – once a week – wastepaper. In particular the (often huge numbers of) parked bikes at the edges have a huge influence on the visual quality of the square. In some cases, they block access roads, especially the entrance of the covered market promenade at the east side of the square. In short, the nature of the market square can be described as twofold. The edges are the main area for staying, with its cafes, benches and wide view of the surroundings, whereas the open square itself is the most important node in the inner village infrastructure for both suppliers and passers-by.

4.2 The Center of Wijchen-Zuid Including Playground “Diepvoorde”



Figure 9: The Center of Wijchen-Zuid Including Playground "Diepvoorde" on the Right (Google, 2009)

4.2.1 Characteristics, Design, Maintenance and Intended Use

This section starts with introducing the center area of the district Wijchen-Zuid with the attached playground “Diepvoorde” (see the two circles on the left in figure 6, p. 31, for the exact location within

the district). The public space here consists mainly of a parking lot, surrounded by cycle paths and walkways (see figure 9, previous page). Adjacent to this, there is a small space reserved for walking dogs, behind which the playground “Diepvoorde” is located. This playground consists of a big lawn with two soccer goals, surrounded by trees. Furthermore, this cluster of open spaces is surrounded by several facilities, namely a primary school including a private playground (far left building on figure 9), an apartment block mainly popular with the elderly (building in the middle on figure 9) (Talis, 2016), a community center, a sports hall and an indoor shopping mall (Gemeente Wijchen, 2017). According to a survey report of the municipality (drafted with cooperating urban design agency Spacevalue), this center area is fragmented. The different features of the area are not in alignment with each other, the buildings are mainly situated with their backs towards the public space, causing an introverted character. They lack unity in terms of construction, materials, color etcetera. The public space itself is cluttered, incoherent and stony, surrounded by confusing walkways and cycle paths (2017). In the course of 2016, the municipality was approached by several stakeholders (such as the community center, local entrepreneurs and the primary school) of Wijchen-Zuid about issues concerning the future of the area. Combined with the current state of the district’s center as explained in the above part, the different stakeholders (led by the municipality) acknowledged the need to redevelop this area (Gemeente Wijchen, 2017).

In terms of design, there are no concrete plans yet for redeveloping the area, but several starting points regarding public space and the surrounding built environment are named in the survey report. In terms of appearance, the municipality misses a coherent theme in construction shape, used materials, colors etcetera. The public spaces have to become cleaner, safer and greener. Furthermore, prevention of decay and cluttering needs more attention. Investment in the cluster of public spaces shown in figure 9 and 10 is mentioned as first priority in the survey report. Loitering, vandalism and littering in the public spaces strengthen the image of decay of the district (2017). According to one of the interviewed policy advisors, the decay of the district is caused not only by the design of the public space, but also by the social composition. Especially in the immediate vicinity of the mall, people with a relatively low socio-economic background form a clique and determine the character of the neighbourhood (2018). Furthermore, the two policy advisors engaged in designing public space in Wijchen name the center of Wijchen-Zuid less appealing and more mediocre in comparison with the earlier discussed market square and the village center in general. It is a fabricated place instead of a historically originated one (2018). Cultural-historic values reflected in design are important according to one of the interviewed policy advisors. Furthermore, this importance is mentioned also in several policy documents of the municipality. These values contribute to recognition and a desired atmosphere (Gemeente Wijchen, 2008; Gemeente Wijchen, 2012; Gemeente Wijchen, 2016). However, according to one of the designers, people in the immediate vicinity of center Wijchen-Zuid

do not desire more esthetic value. He expects that people appreciate high quality parking lots and wider, safer roads (e.g.) more than natural stone street furniture or ornate lampposts (2018). The statement that the functionality of a place is more important than the esthetic value is widely supported among the policy advisors engaged in design. The municipality attaches great value to assessing the needs of the local residents and (in some cases) entrepreneurs. In all interviews, the policy advisors stated that local residents' opinions are crucial to the chances of success of the project concerned. Answering to the needs of the users determines the quality of the public space (2018), or as stated by another policy advisor: "The right function in the right location adds to the quality of life" (2018). So, desk research and interviews with policy advisors, result in a somewhat contrary image in terms of design. The appearance of the public space is questioned in its current state, but the need for an upgrade of the appearance is questioned too, as functionality is expected to be more important to the local residents than esthetics (Policy advisors municipality Wijchen, 2018). The response of the survey among the inhabitants of Wijchen-Zuid will reveal what is seen as most important in this functionality-esthetics debate.

In terms of maintenance, the center of Wijchen-Zuid is quite a demanding place. According to the safety policy advisor, loitering is a focus point of the current safety policy of the municipality. It is not a huge problem at the moment, but the more vulnerable neighbourhoods, such as the project area in Wijchen-Zuid, are susceptible to it. The municipality tries to find a balance between preventing and facilitating loitering by offering hangout spots to the young where the nuisance for local residents is negligible (2018). An example can be found behind the primary school shown on figure 9 (p. 36). Another form of nuisance which was an issue in the recent past was street racing, mainly around the mall. According to three interviewed policy advisors, the greatest present-day concerns in Wijchen-Zuid are social issues. The moving propensity is relatively high, resulting in more anonymous neighbourhoods with little social control (2018). According to the health care policy advisor, this anonymity is a barrier for tackling social problems. People with a low socio-economic background or people with a demand for care are the most difficult to reach. The programs to improve the socio-economic situation of those vulnerable population groups are thus not achieving the desired results (2018). Furthermore, she adds that public space plays an important part in reaching those population groups. A public space which invites people to move is the starting point for participating in society. It brings people out of anonymity and isolation. (2018). When discussing the actual maintenance of the physical environment, the concerned policy advisor states that the center area in Wijchen-Zuid gets the same level of maintenance as the village center itself, Level B. This is the highest form of maintenance after construction quality A (2018). Again, the actual maintenance is determined based on the state of the components roads, weeds, street furniture, landscaping, monuments and cleanliness (Gemeente Wijchen, 2017).

The intended use of the cluster of public space is multiple. When looking at the parking lot and infrastructure, this place is an important node in the traffic flows around the district's center. Judging by the survey report, the municipality is not pleased with the current situation, because of several bottlenecks in the infrastructure and too much diversity in parking lots, causing confusion (2017). The playground "Diepvoorde" is an important playground for the immediate surroundings. As stated in the "execution plan play space" of the municipality, playground "Diepvoorde" used to target children in the age category 0 up to and including 11. However, due to an expected decrease in the number of children living in the district of Wijchen-Zuid, playground equipment from surrounding playgrounds will be repositioned in playground "Diepvoorde", turning this playground into a more prominent one, both for sports and for playing, for the age category 0 up to and including 18 (2015). Lastly, the municipality uses distance-based guidelines (maximum number of meters from every house to the nearest dog walking area) out of which you can assume that the dog walking area concerned has its substantiated function, despite the seemingly large number (7) of dog walking areas in the neighbourhood (Gemeente Wijchen, 2016).



Figure 10: The Pathways Intersection

4.2.2 Actual Usage of Center Wijchen-Zuid and Playground "Diepvoorde"

In contrast to the earlier discussed market square, this cluster of public spaces in Wijchen-Zuid is not so much a place of staying. There are no cafes or restaurants surrounding the public space. Also benches and other seating facilities are absent. Based on the observation sessions, the nature of public spaces here are characterized by the flows of movement. The most eye-catching activity in this area is

passing-through. People move through the public space by bike, on foot, by moped, or using vehicles for the elderly/disabled. The network of pathways plays an important role in forming the characteristic of this cluster of public space, of which the intersection of pathways shown in figure 10 (previous page) is the most striking example for several reasons. First, the confusing structure of the pathways is well illustrated in this intersection. Different materials have been used for the biking lane, which looks untidy and disorientating. Furthermore, the structure of the paths invites people to cut off the bend towards the west and makes visibility difficult towards the east. Towards the south side, the parking lot is located, which forces people coming from the north side to take a small detour to reach the mall located to the south. However, during the observation sessions, it became clear that nobody is willing to take this detour. Instead, people walk through the bushes and via the parking lot to the mall, making the already confusing intersection more complex; in some cases even dangerous. Moreover, the small dog walking area (located behind the silver car on figure 10) can be accessed only by crossing this intersection, also contributing to the complexity of this spot. In total, this situation led to three minor incidents during the observations in which bicycles and a moped were involved. Lastly, the way the paths are structured at the intersection seems to invite children to play there with scooters and hoverboards, thankfully not leading to incidents during the observation period.

The pathways intersection also plays a central role in the few occurrences of people staying in this public area. The intersection sometimes functions as a meeting ground both by incident (e.g. elderly women running into each other), or planned (e.g. a group of mothers waiting for school to finish). Despite the good weather during the observation sessions, both playground “Diepvoorde” and the private playground of the school are used very little. The dog walking area, on the other hand, is used frequently, which is clearly a way for fellow dog owners to meet up and have a talk. The number of people walking their dogs in this area is very high, in comparison to the TKWM area. The notion: “The right function in the right location adds to the quality of life” as stated by one of the policy advisors (2018) seems to be most applicable on this small dog walking area, based on own observations.

Besides moving and staying, a third function was observed which is highly influential to the nature of this place. Namely, this cluster of public spaces in Wijchen-Zuid plays a demonstrable role in the daily social life of several local residents. This statement is based on the perceived patterns of people (mostly elderly people living in the apartment complex) who use these public spaces on a regular basis. The more observation sessions were carried out, the more familiar faces were recognized. These patterns of the same people walking the same routes on the same times towards the facilities in the immediate surroundings in some cases caused the public space to serve as a meeting ground where these frequent users spontaneously met up. After some time, people started to recognize the observer as well and started to greet him by saying hello, waving or even singing. Thus, the observer became part of this every day practice more and more, resulting in a six times higher

number of interactions between local residents and observer in comparison to the market square, although the amount of people passing-by in the market square was way higher. A side note here is that the observer spot in the market square was less visible and therefore less accessible for interaction.

4.3 Playground “Hoogmeer/De Ververt”



Figure 11: Playground “Hoogmeer/De Ververt” (Google, 2009)

4.3.1 Characteristics, Design and Maintenance

Between the two neighbourhoods “Hoogmeer” and “De Ververt” a relatively large green area (4858 square meters) is located, which serves as a playground (see the right circle in figure 6, p. 31, for the exact location within the district). In figure 11, the northern part of the playground is shown. The pathway on the far left is the link between the two neighbourhoods Hoogmeer and De Ververt and it separates the playground in a northern and a southern part. On both sides of the pathway a total of 10 pieces of playground equipment can be found. Furthermore, on both ends, playing fields are located. On the north side is a basketball court (see figure 11) and on the south side a soccer field. In terms of design and intended use, this green area is developed for children between the age of 0 and 18 years old. In the “execution plan play space”, the target group for this playground will remain the same and the quality of the playground will get an upgrade in order to remain an appealing space for the children in the neighbourhood (2015). As mentioned before, due to the decrease in children living in Wijchen-Zuid, three small playgrounds will disappear in the immediate surroundings and the playground shown in figure 11 will thus get a more prominent role in the neighbourhood, especially in

terms of sports (Gemeente Wijchen, 2015). This will make the playground extra appealing for the age category 6 up to and including 18. In terms of maintenance, nothing can be said on the basis of the interviews or desk research. During the observation sessions, several maintenance activities were observed at different times, such as lawn mowing, pruning and hoeing. So based on own observations, the maintenance level seems to be comparable to the other observation spots.

4.3.2 Actual Usage of Playground “Hoogmeer/De Ververt”

The actual usage of the playground can once again be divided into staying and moving. When speaking of staying, the main function for a playground is, of course, a place to play for children. However, the actual usage of the playground for this purpose is rather limited based on the observations. Only in a quarter of the observation sessions, children were playing at the playground attributes. The basketball court and the football field were not used at all during the sessions. However, signs of usage, like a ball hanging in a tree, debris on the basketball court and beer cans lying around the bench show that these areas were used recently. Apart from the occasional playing children, another observed reason to stay in the playground is the bench, on which two youngsters met up and stayed for a while. On all the other activity-free moments, the nature of the playground was mainly characterised by tranquility, the soundscape provided by numerous birds and engine noises in the distance, but most of all by the passers-by, on bikes, on foot, on mopeds and skateboards. The pathway between the two neighbourhoods “Hoogmeer” and “De Ververt” was the most popular path during the observation sessions. The route right through the playground from the south to the north and vice versa was mainly popular with people walking their dogs. This is a striking phenomenon, as the playground itself is a forbidden area for dogs, clearly indicated by signs on both sides (NB, it is allowed to walk your dog on the pathway shown on the far left in figure 11) . The overall observed number of people walking their dogs here in playground “Hoogmeer/De Ververt” is the highest of all three discussed places, despite the low total number of people observed in this spot.

In short, this playground area is way more quiet than the center areas discussed earlier. The pathways are used frequently, but not continuously, as in the other two areas. The fact that the activity most observed in this playground, walking dogs, is not allowed in this very place and the intended use as a playground is hardly observed at all, questions the legitimacy of this public space. In other words, if indeed the link between quality of life and public space is determined by “the right function in the right place” as stated by one of the policy advisors (2018), this playground does not enhance one’s quality of life based on this statement.

5. Survey Findings Wijchen-Zuid

5.1 General Appreciation of Wijchen-Zuid

This chapter will discuss the outcome of the survey conducted in Wijchen-Zuid (the four neighbourhoods Hoogmeer, Huissteden, Diepvoorde and de Ververt). For each aspect displayed in table 2, the respondents gave a mark between 1 (bad) and 10 (good). These aspects together give insight in the general appreciation of their neighbourhood by the local respondents of Wijchen-Zuid. “Safety” has been included in this scale, because this aspect is vital in the choice to enter a certain space or avoid it (Mehta, 2014). The indicator “safety” is measured by means of two questions for which the respondents gave a figure between 0 (totally not) and 10 (completely), namely: do you feel safe during daytime? And: do you feel safe at night? Not entering the whole neighbourhood can give a distorted image of the general appreciation, therefore “safety” is an aspect to take into account. Table 2 shows that almost every aspect is valued positive, except for the aspect “image of the neighbourhood”. This means the residents of Wijchen-Zuid expect a rather mediocre view upon their neighbourhood by people not living in Wijchen-Zuid. When looking at the positive outliers, the aspects on the overall satisfaction level and the perception of safety during the day stand out. Based on a paired samples t-test, the inhabitants of Wijchen-Zuid feel significantly safer during the day than at night (Sig. 0,000 < 0,05). The Cronbach’s Alpha is used to determine if the different aspects can be bundled together into one single scale. When the alpha has a value of 0,7 or higher, the bundled scale is reliable. In this case, the Cronbach’s Alpha has a value of 0,781. Thus, the general appreciation of the neighbourhood in Wijchen-Zuid is reflected by all five valued aspects.

	Mean	Minimum	Maximum	Standard Deviation
Satisfaction	7,64	1	10	1,308
Feel at home	7,40	1	10	1,629
Image of the neighbourhood	5,73	1	10	2,118
Safety during the day	8,25	3	10	1,266
Safety at night	7,03	1	10	1,955

Table 2: General Appreciation

Cronbach’s Alpha

0,781

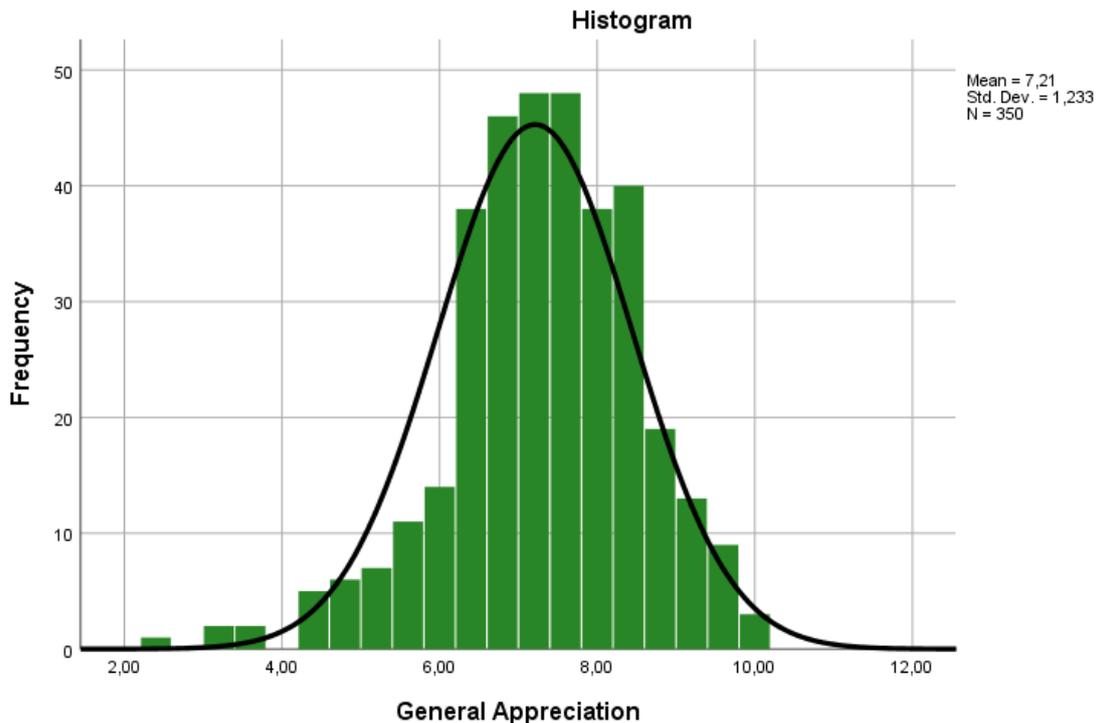


Figure 12: General Appreciation

The histogram in figure 12 shows us that the general appreciation has a mean mark of 7,21. The model shows signs of a normal distribution, but the Shapiro-Wilk test of Normality proves the opposite (Sig. 0,000 < 0,05). This value of 0,000 means we cannot reject the alternative hypothesis and we have to conclude that the data does not come from a normal distribution. Therefore, we cannot further interpret the standard deviation.

These numeric qualifications of the overall appreciation are supplemented with a few open questions to specify the experienced positive and negative aspects. These questions are:

- What do you like about your neighbourhood?
- What do you dislike about your neighbourhood?
- When you walk through your neighbourhood, does this evoke a certain feeling?

Based on the – generally – positive mean marks in table 2 (previous page), one can hypothesis more positive than negative answers on these questions. When looking at the first two questions, the top-10's are displayed in the tables 3 and 4 on the next page.

<u>What do you like?</u>	Frequency	Percentage of <i>all</i> responses
1. Tranquility	103	18,5%
2. Location within Wijchen	70	12,6%
3. The Mall	58	10,4%
4. Green Areas	55	9,9%
5. The Lake	51	9,2%
6. Facilities	29	5,2%
7. The People of Wijchen-Zuid	22	4,0%
8. The Direct Neighbors	21	3,8%
9. All-Embracing	21	3,8%
10. Accessibility	17	3,1%
Total Responses Top-10	447	80,4%
Total All Responses	556	100%

Table 3: Positive Aspects

In summary, when talking of positive aspects of Wijchen-Zuid, the respondents like the ambiance and the location of their neighbourhood. Furthermore, they like the (green) facilities and their fellow neighbourhood residents. In 80,4% of all the responses, these four categories are serving as justification for the high mean mark for the general appreciation of the neighbourhood. Also, the most stated factor which is valued positive, “tranquility”, seems to have common grounds with the positive outlier seen earlier in the appreciation analysis “safety during daytime”.

<u>What do you dislike?</u>	Frequency	Percentage of <i>all</i> responses
1. Parking Lots	50	10,4%
2. Garbage	41	8,5%
3. Maintenance of Landscaping	39	8,1%
4. Traffic Safety	34	7,0%
5. Appearance	32	6,6%
6. Maintenance of Infrastructure	21	4,3%
7. Dog Excrement	20	4,1%
8. The People of Wijchen-Zuid	19	3,9%
9. Noise Disturbance	17	3,5%
10. Loiterers	16	3,3%
Total Responses Top-10	289	59,8%
Total All Responses	483	100%

Table 4: Negative Aspects

Regarding the negative aspects, the respondents name several bottlenecks in the design, maintenance and appearance of the physical environment, supplemented with issues of nuisance (based on 59,8% of the total responses). From these data it is hard to conclude if one or multiple of these aspects cause the relatively low mark for the image of the neighbourhood and/or the safety at night mark.

As hypothesized, table 3 and 4 on the previous page show that the respondents named more positive (556) than negative (486) aspects (when looking at the total of all responses). However, when talking of *different* aspects, the respondents mentioned more negative (51) than positive (32) aspects. This is also clearly presented by the percentages covered by the top-10 aspects (80,4% - 59,8%). Looking at the given answers itself, the most striking fact is the role of “people of Wijchen-Zuid”. In both tables, around 4% of the respondents name this aspect, which means that the number of respondents who qualify their fellow neighbourhood residents as positive is as big (relatively) as the number of residents who state the opposite. Answers to the third question are shown in the next table:

Feelings	Frequency	Percentage of <u>all</u> responses
1. Dissatisfaction	45	22,6%
2. Nice	32	16,1%
3. Tranquility	19	9,5%
4. Deterioration	19	9,5%
5. Mixed Feelings	16	8,0%
6. Feel at Home	12	6,0%
7. Unsafe	10	5,0%
8. Anonymity	9	4,5%
9. Too Crowded	8	4,0%
10. Enjoy the Greenery	5	2,5%
Total Responses Top-10	175	87,9%
Total All Responses	199	100%

Table 5: Feelings

The most frequently named feeling is “dissatisfaction” of some kind. Although this feeling is broad and therefore not surprisingly stated more often than narrow feelings such as “tranquility”, the total number of respondents experiencing negative feelings is higher than those with positive feelings (112 negative – 87 positive). This is a somewhat different outcome compared to table 2 (p. 43). A possible cause for this can be found in psychology under the header “negativity bias”: negative emotions are believed to be more powerful than positive emotions (Henrard, 2013; Rozin & Royzman, 2001). In this

case of Wijchen-Zuid, it could mean something like: although people may be satisfied with Wijchen-Zuid as their place of residence overall, their most prominent feeling about this very neighbourhood still can be negative.

The last item to further elaborate on is the DISC model. In the following figure, the distribution of the different person types in the four neighbourhoods of Wijchen-Zuid is shown (see figure 4 on page 26 and the figure attached to table 6 on this page for an elaboration on the exact meaning of the different colors):



Figure 13: Person Types

In the bottom bar, the percentages are shown concerning the total municipality of Wijchen. Here, the lime, green and aqua person types are accounting for more than half of the population. These groups can be characterized as friendly, quiet and respectful (DISCvision, n.d.) The task-oriented, energetic and enterprising red and purple groups are underrepresented in the municipality of Wijchen with only 5% and 6,9% of the total. In Wijchen-Zuid, the share of extrovert people (red, orange & yellow) is bigger than the share of introvert people (green, aqua & blue), compared to the figures of the total municipality. Also the friendly, community-oriented lime group is notably bigger in Wijchen-Zuid. The general appreciation of Wijchen-Zuid sorted by color looks as follows:

Person Type	Frequency	Mean
1. Red (Active & Dynamic)	12	7,62
2. Lime (Cozy & Friendly)	54	7,55
3. Yellow (Spontaneous & Trendy)	64	7,48
4. Green (Quiet & Down-to-Earth)	47	7,19
5. Orange (Enthusiastic & Creative)	88	7,17
6. Aqua (Thoughtful & Respectful)	30	6,87
7. Purple (Enterprising & Decisive)	22	6,86
8. Blue (Stylish & Formal)	29	6,57
Total	346	7,21

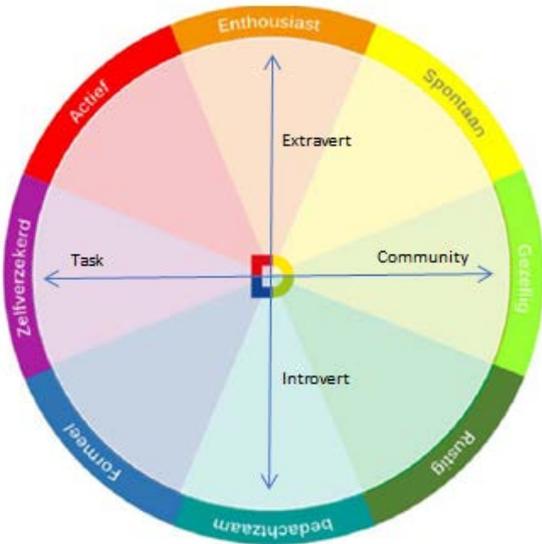


Table 6: Person Types

The resulting top-3 is formed by three extravert person-types, leaning towards the community-based side. The three groups which give the lowest mean mark for the general appreciation are introvert

person types, leaning towards the task-oriented side. Thus, a clear division is visible. Based on an one-way ANOVA test, the differences between the groups are indeed significant (Sig. 0,004 < 0,05). The accompanying Post Hoc Test shows that this significance can be found between the top-3 and the blue group. In other words, the active, cozy and spontaneous groups are appreciating Wijchen-Zuid generally better than their formal and stylish fellow neighbourhood residents.

Another important test which need to be done before actually starting the quality of life study is determining a possible relationship between the different person types and “staying in public space”; a starting point before determining what public space means for the people in Wijchen-Zuid. This has been done by running a logistic regression analysis, in which the dependent variable “not staying in public space” is the event for which the regression predicts odds. The person types are the categorical independent variables, in which “purple” is the reference category. This test shows that three person types do have significantly more chance to stay in public space than the purple group, namely the yellow, lime and green person types (which is the community-oriented side of the DISC model (see table 6 on the previous page). The theory behind this logistic regression test is elaborately explained in the next chapter.

5.2 Quality of life study Wijchen-Zuid

Building on the latter paragraph, in the following quality of life study in Wijchen-Zuid, logistic regression analysis has been used in most cases to analyze the gathered data. In this research, we deal with a lot of dependent variables which are of a dichotomous nature, namely yes/no questions. The independent variables are scale variables: marks between 0 (negative/disagree) and 10 (positive/agree). By using logistic regression analysis, it is possible to determine the relation between the dichotomous dependent variable and the independent variable(s). When a variable is named for the first time, it is introduced with stating the used survey question, the nature of the variable (dependent/independent) and the corresponding answer categories. When a variable is named several times, only the nature of the variable is stated, to ensure readability. When a test other than logistic regression is used, this is stated (and when necessary explained) in the text. Each part of this quality of life study is structured in the same way: it starts with the SPSS tests. Thereafter, the figures and potential relationships are supplemented with open questions, after which different views by different respondents upon the outlined analysis is shown by using the DISC model.

5.2.1 Health

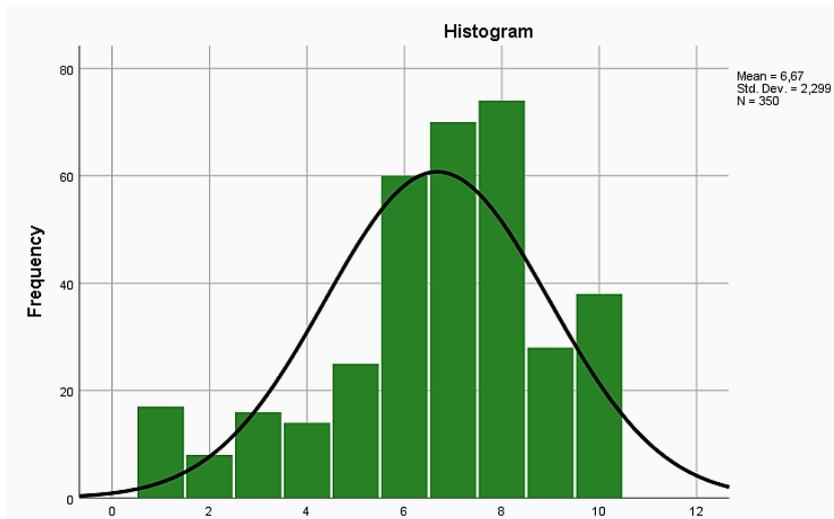


Figure 14: Sports/Exercise

As stated in the conceptual framework (p. 21), quality of life is operationalized on the basis of the theory of Mitchell. The first dimension of quality of life this research will deal with is “health”, divided into the indicators “physical health” and “mental health” (2000). For the indicator physical health, the

respondents of Wijchen-Zuid are being asked about their degree of sports/exercise on a regular basis (corresponding survey question: do you sport/exercise on a regularly basis? In which 1 is rarely and 10 is daily). The result is schematically shown in figure 14. With 6,67, the mean is not very high. Which means that the inhabitants of Wijchen-Zuid are not notable sporty. Furthermore, the results are clearly not normally distributed. To determine the relationship between exercising and public space (corresponding survey question: do you like to stay in public space in your neighbourhood? dependent variable in which yes = 1 & no = 2), logistic regression analysis is carried out, in which “not staying in public space” is the event for which this regression will predict odds. As displayed in the small table attached to table 7, 87,7% of the respondents like to stay in public space in Wijchen-Zuid.

Not staying in public space	Exp(B)	Sig.
General Appreciation	0,484	0,000
Degree of Exercise	0,938	0,406
Constant	30,233	0,001

Table 7: Exercise & public space

Looking at the results of the logistic regression analysis, we can conclude that no significant relationship exists between not staying in public space and the degree of exercise (Sig. 0,406 > 0,05). However, there is a significant relationship between not staying in public space and the general appreciation of Wijchen-Zuid (Sig. 0,000 < 0,05). The Exp(B) (SPSS jargon for the odds ratio) tells us the ratio between the probability that a certain event will occur and the

Staying in Public Space	
Space	
Yes	299
No	42

probability that this event will not occur. So, when applying this on the odds ratio as seen in table 7, this means: with every point increase in the general appreciation score, the odds of not staying in public space are multiplied by 0,484. As the general appreciation score increases, the odds of not staying in public space decrease. In other words, the higher the general appreciation of Wijchen-Zuid, the higher the odds to stay in public space. As there is no relationship between staying in public space and the degree of exercise, a closer look at the odds ratio between these two variables is not relevant. To assure that the model adequately describes the data, a Hosmer-Lemeshow test provides information on the overall model fit. This test indicates a good fit if the significance value is more than 0,05 (IBM Knowledge Center, n.d.). In this case, the significance is 0,390 and therefore the model fits the data.

No challenging outdoor space	Exp(B)	Sig.
General Appreciation	0,787	0,020
Degree of Exercise	0,848	0,003
Constant	5,253	0,044

Table 8: Challenging Outdoor Space & Degree of Exercise:

When changing the event for which the regression predicts odds to: “the outdoor space in my neighbourhood does not challenge me to exercise” (corresponding survey question: does your neighbourhood challenge you to exercise? dependent variable in which yes = 1 & no =2), the results are slightly different. As displayed in the small table, 75,2% of the respondents qualify the outdoor space as challenging. We can conclude that significant

Challenging Outdoor Space	
Yes	255
No	84

relationships exist between the dependent and both independent variables (Sig. 0,020 & 0,003 < 0,05). With every point increase in the general appreciation score, the odds of a no challenging outdoor space are multiplied with 0,787 (Exp(B)). This means, the higher the general appreciation, the higher the odds that people are challenged to exercise in their neighbourhood. The odds ratio for the degree of exercise is also smaller than 1 (0,848), which causes a similar effect: the more a respondent exercises, the higher the odds he/she is challenged by the outdoor space. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,318 > 0,05).

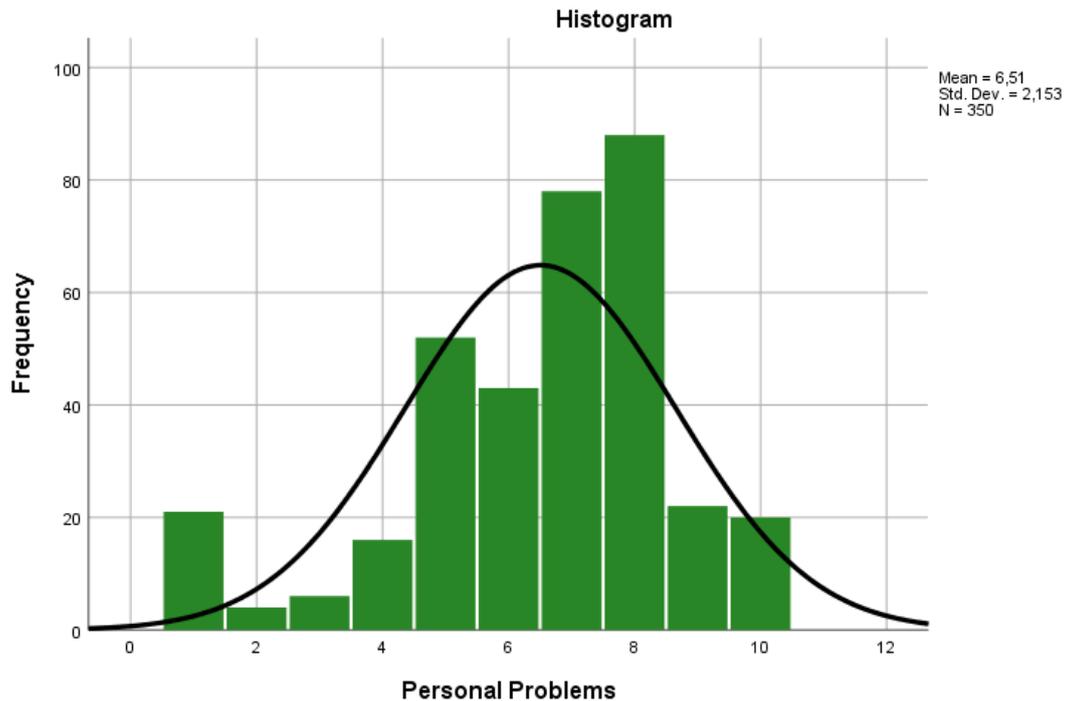


Figure 15: Role Neighbourhood in solving Personal Problems

When moving on to the mental health, the respondents are being asked about their personal problems: the role the neighbourhood can have in solving personal problems is quantified with a number between 1 (no role) and 10 (big role) by the respondents and schematically shown in figure 15. The results are quite similar to the degree of sports/exersize seen earlier. The mean mark is 6,51, which does not indicate a notable role of the neighbourhood in solving people’s personal problems. Logistic regression analysis helps with detemrning the role of public space in special. “Not staying in public space” (dependent variable in which yes = 1 & no = 2) is the event for which this regression will predict odds:

<u>Not staying in public space</u>	Exp(B)	Sig.
Personal Problems	0,857	0,027
Constant	0,368	0,026

Table 9: Personal Problems & Public Space

Looking at the results, there is a significant relationship between not staying in public space and the role of the neighbourhood in solving personal problems (Sig. 0,027 < 0,05). With every point increase in the “role of the neighbourhood in solving problems” mark, the odds of not staying in public space are multiplied with 0,857 (Exp(B)), and therefore, the odds decrease.

Staying in Public Space	
Yes	299
No	42

This means, the smaller the role of the neighbourhood in tackling personal problems, the lower the

odds to stay in public space. This is in line with a statement of the health policy advisor of the municipality Wijchen: she says that public space is vital in tackling health-related issues. Public space has to be appealing and inviting to prevent the socially vulnerable of becoming isolated (2018). This test shows that people in Wijchen-Zuid who struggle with personal problems do avoid public space significantly more than those who do not struggle. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,714 > 0,05). Logistic regression analysis has also been carried out to examine a possible relationship between the role of the neighbourhood in solving problems and the evoking of a certain feeling when walking through the neighbourhood, as these are both mentally-oriented themes. The results show that no relationship exists between these two variables (Sig. 0,496 > 0,05).

The following open questions add qualifying information to the foregoing regression analyses on the dimension “health”:

- Why does your neighbourhood’s outdoor space challenge you to exercise? Or: Why does your neighbourhood’s outdoor space not challenge you to exercise?
- Why do you not want to stay in public space in your neighbourhood?

The top-10’s for the first questions is displayed here:

Challenging	Frequency	Percentage	Not Challenging	Frequency	Percentage
1. The Lake	74	23,5%	1. Low Quality Infrastructure	16	20,5%
2. Walking Round the Lake	63	20,0%	2. Not Interested	15	19,2%
3. Walking	39	12,4%	3. The Traffic Safety	8	10,3%
4. Cycling	29	9,2%	4. Not Appealing	6	7,7%
5. The Greenery	23	7,3%	5. The Fellow Neighbors	5	6,4%
6. Lots of Pathways	18	5,7%	6. No Space	4	5,1%
7. The Beauty	11	3,5%	7. Dog Excrement	4	5,1%
8. Jogging	10	3,2%	8. Not Possible	4	5,1%
9. The Location	10	3,2%	9. The Ambiance	4	5,1%
10. Health Related	6	1,9%	10. Pollution	3	3,8%
Total Responses Top-10	283	89,8%	Total Responses Top-10	69	88,5%
Total All Responses	315	100%	Total All Responses	78	100%

Table 10: (Not) Challenging Outdoor Space

When looking at the small table attached to table 8 (p. 50), 255 people (75,2%) feel challenged by the outdoor space in their neighbourhood. The information in table 10 tells us that the lake, walking round the lake and walking in general creates this feeling in more than half of the cases. The remaining answers in the top-10 (89,8% of the total responses) can be categorized into specific activities, qualities of the surroundings and acknowledging the importance of exercising for one's health. The reasons why the respondents do not feel challenged are in 62,7% of the total responses driven by bottlenecks in design, maintenance and appearance of different aspects of the physical environment. Also, in 6,4% of the cases of the total responses, the social environment acts as a barrier. Lastly, about one in five does not have interest in feeling challenged to exercise in the own neighbourhood. For the question why people do not want to stay in public space in their neighbourhood, only 27 responses are recorded over nine different categories, since only 12,3% of the people in Wijchen-Zuid do not like to stay in public space. This is displayed in table 11.

<u>Barriers</u>	Frequency	Percentage
1. Noise Disturbance	8	29,6%
2. Visits Public Space Outside Wijchen-Zuid	7	25,9%
3. Public Space too Stony	3	11,1%
4. Unpleasant Environment	3	11,1%
5. Not interested	2	7,4%
6. Not Possible	1	3,7%
7. Too much Vermin	1	3,7%
8. Poor Maintenance	1	3,7%
9. Unsafe Feeling	1	3,7%
Total All Responses	27	100%

Table 11: Barriers for staying in Public Space

One in three of the negative aspects can be found in the design, maintenance and feeling of the physical environment. Also, one in three respondents who do not stay in public space go to locations outside Wijchen-Zuid for this purpose or are not interested at all. Lastly, the remaining one in three of this respondent-group experiences noise disturbance which keeps them from staying in public space.

Possible differences between the respondents regarding the dimension "health" are made visible by the DISC model. As seen in the previous part, the community-oriented person types do like staying in public space in Wijchen-Zuid significantly more than the task-oriented fellow neighbourhood residents (p. 48). In this dimension, possible differences between the person types regarding the degree of exercise, challenging outdoor space and personal problems will be measured. For the degree

of exercise, no relationship exists with public space (table 7). As expected, there is also no significant difference between the person types regarding this topic, based on a one-way ANOVA test (Sig. 0,131 > 0,05). However, when looking at the different mean marks given by the different person types. The extravert orange group is most sporty, with a mean mark of 7,27 (in which 1 = rarely exercising till 10 = daily exercising) and the introvert aqua group is the least sporty, with a mean mark of 6,03. When moving on to the degree in which the outdoor space challenges to exercise, a relationship exists when comparing this to the degree of exercise (table 8), but when running a logistic regression analysis, in which the outdoor space is the dependent variable (yes = 1 and no = 2) and the person types are the categorical independent variables, no significant differences between the types exist (All eight significant values are bigger than 0,05). Again, the extravert orange group has the highest score with an affirmative answer in 82,8% of the cases regarding the inviting outdoor space. The dynamic and active red types score the lowest with only 54,5% “yes” answers. When moving on to the role of the neighbourhood in solving personal problems (1 = no role till 10 = big role), there is no significant difference between the person types based on the accompanying ANOVA test (Sig. 0,406 > 0,05). When looking at the ratings, a similar picture arises: the extravert orange group finds its way best with a mean mark of 6,85. Opposing the red group with a mean mark of only 5,5. Although no significant differences can be made, these tests show us that the extravert orange group gives the highest ratings on the dimension “health” and the active/dynamic red group are found in the lower places. This is different compared to the figures on “general appreciation”, in which the red group was the most positive and the orange group could be found in the middle.

5.2.2 Security

The second dimension of quality of life is “security”, which is divided into the indicators “crime/safety”, “economic security” and “housing”. For the first indicator, the respondents have been asked about their sense of safety, both during the day as at night (by means of a mark between 0 (totally unsafe)

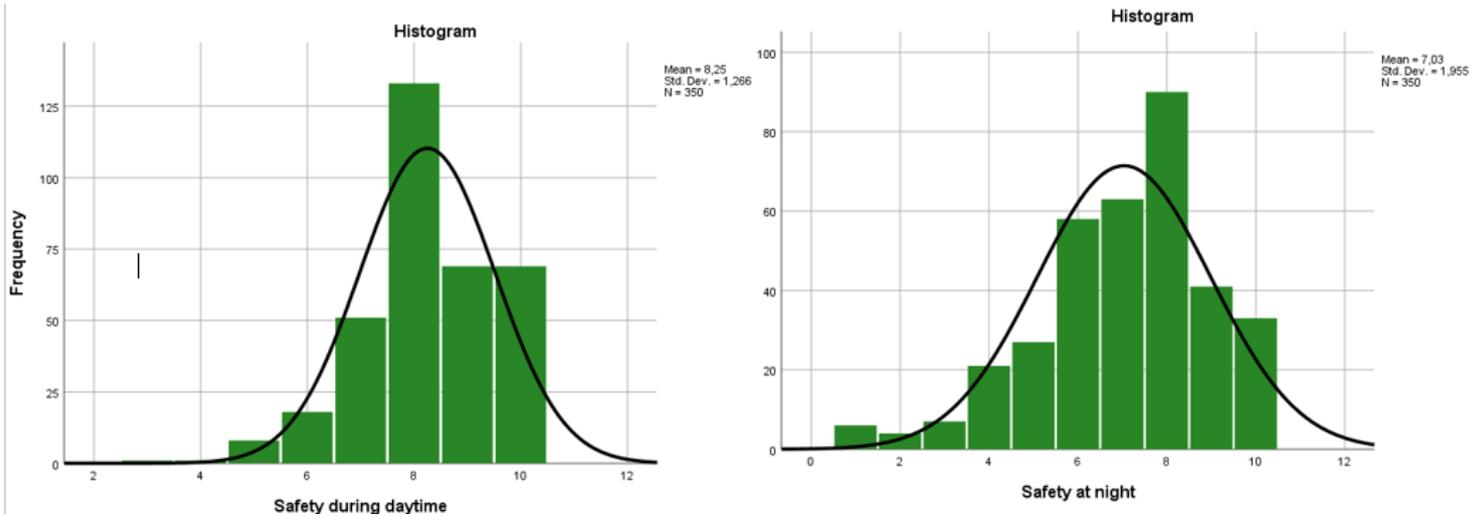


Figure 16: Safety during Daytime & at Night

and 10 (totally safe)). The results are schematically shown in figure 16. As stated earlier, there is a significant difference in the feeling of safety during daytime and at night. During the day, the mean safety mark is high with a whopping 8,25. At night, this is only 7,03. Again, to determine if correlation exists between the sense of safety (independent variables, scale level) and staying in public space (dependent variable in which yes = 1 & no =2), logistic regression analysis is carried out. “Not staying in public space” is the event for which this regression will predict odds:

Not staying in public space	Exp(B)	Sig.
Safety during Daytime	0,854	0,260
Safety at Night	0,722	0,000
Constant	4,262	0,161

Table 12: Safety & public space

Out of table 12, we can conclude that no significant relationship exists between not staying in public space and the feeling of safety during daytime (Sig. 0,260 > 0,05). on the other hand, there is a relationship when talking about safety at night (Sig. 0,000 < 0,05). With every point increase in the safety at night score, the odds to not stay in public space decrease because

Staying in Public Space	
Yes	299
No	42

of the multiplication with 0,722 (Exp(B)). In other words, the safer people feel at night in their neighbourhood, the bigger the chance they stay in public space. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,955 > 0,05).

No Unsafe Spots	Exp(B)	Sig.
General Appreciation	2,088	0,000
Safety during Daytime	1,054	0,680
Safety at Night	1,677	0,000
Constant	0,008	0,000

Table 13: Safety & Unsafe Spots

When changing the events for which the regression predicts odds to “not knowing any unsafe spots in the neighbourhood” (corresponding survey question: are you aware of (a) certain spot(s) in your neighbourhood in which you feel not safe? dependent variable in which yes = 1 & no = 2), the

Unsafe Spots	
Yes	132
No	194

results are quite similar: no relationship when talking about safety during daytime (Sig. 0,680 > 0,05) and there is a relationship when talking about safety at night (Sig. 0,000 < 0,05). The odds ratio (Exp(B)) tells us that for each point the “safety at night” mark increases, the odds that the respondent knows no unsafe spots are multiplied with 1,677, and thus increase. When looking at the small table, 40,5% of the people in Wijchen-Zuid is aware of unsafe spots in the district. An interesting regression analysis appears when running it on general appreciation (independent variable, scale level). Here, there is also a correlation with “no unsafe spots” (Sig. 0,000 < 0,05), which is to be expected since “safety” is included, but in this case, the odds ratio (Exp(B)) is even bigger: 2,088. This means, for every point the general appreciation mark increases, the odds that the respondent knows no unsafe spots doubles. This also means that the remaining aspects of which “general appreciation” consists of (satisfaction, feeling at home & image of the neighbourhood) correlate with (un)safe spots. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,344 > 0,05).

When looking at the degree in which the respondents are satisfied with the appearance of the built environment, the relationship with staying in public space is very interesting. The following question has been asked: Are you satisfied with the appearance of the built environment in your neighbourhood? The notion that the quality of public space is determined by “the walls” instead of the open space itself, is widely supported by urban planners (De Waard & Rodenburg, 2007). The association between these two variables cannot be analyzed with regression analysis, as these two variables are both dichotomous (yes = 1 & no = 2). Therefore, as stated in the methodology, a Pearson’s r test has been used. In this case, there is a relationship (Sig. 0,004 < 0,05). With a value of 0,159, the value of this correlation is slightly positive, which means, the higher the satisfaction of the built environment, the higher the odds to stay in public space (albeit rather little). These figures are related to the built environment and public space in general and therefore do not explicitly confirm the

statement by De Waard & Rodenburg (2007), as this test does not say anything about specific buildings around specific public spaces.

Moving on to the economic security, the correlation between the independent variable “respondent’s income” (corresponding survey question: what was the total income of your household in 2017? scale level, in which 1 = less than €20,000, 2 = between €20,000 - €49,999 & 3 = €50,000 and more) the general appreciation of the neighbourhood (independent variable, scale level) and public space in particular (dependent variable in which yes = 1 & no = 2) is measured. The results are shown in table 14. “Not staying in public space” is the event for which this regression predicts odds:

Staying in Public Space	
Yes	299
No	42

Not staying in public space	Exp(B)	Sig.
General Appreciation	0,478	0,000
Total Income	0,810	0,500
Constant	21,284	0,001

Table 14: Public Space & Income

As seen earlier (table 7, p. 49), the general appreciation score correlates with not staying in public space (Sig. 0,000 < 0,05). The adjustment by the aspect “total income” has little effect on this correlation. A relationship between the total income of a respondent and the likeliness to stay in public space does not exist (Sig. 0,500 > 0,05). The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,405 > 0,05).

Disliking the Greenery	Exp(B)	Sig.
General Appreciation	0,675	0,001
Total Income	1,707	0,019
Constant	9,019	0,002

Table 15: The Greenery & Income

When changing the event from “not staying in public space” to “not satisfied about the quality of green public space” (corresponding survey question: are you satisfied with the public greenery in your neighbourhood? dependent variable in which yes = 1 & no = 2) the results are different (table

Liking the Greenery	
Yes	216
No	128

15). In general, 62,8% of the respondents are satisfied with the greenery. The significance of 0,001 and the odds ratio (Exp(B)) of 0,675 tell us that the chance to like the green facilities in Wijchen-Zuid

increases when the general appreciation increases. When looking at the total income, there is also a relationship with the greenery (Sig. 0,019 < 0,05). The odds ratio (Exp(B)) of 1,707 tells us that for every point the total income increases, the odds that this respondent dislikes the greenery increases as well. In other words, the higher the income, the higher the chance on a negative rating of the greenery. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,578 > 0,05).

Also for this dimension “security”, some open question have been asked to qualify the positive and negative aspects. These open questions are:

- If relevant: why do you feel unsafe on a specific outdoor space in your neighbourhood?
- If relevant: why do you feel not welcomed on a specific outdoor space in your neighbourhood?
- If relevant: what are you missing in terms of supervision?

<u>Reason Unsafe Feeling</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Reason not Welcome</u>	<u>Frequency</u>	<u>Percentage</u>
1. Loiterers	74	38,3%	1. Specific Place	10	41,7%
2. Bad Lighting	46	23,8%	2. Loiterers	4	16,7%
3. Drugs	45	23,3%	3. Ambiance	3	12,5%
4. Out of Sight	28	14,5%	4. Neighbors	2	8,3%
Total All Responses	193	100%	5. Unsafe feeling	1	4,2%
			6. Design	1	4,2%
			7. Noise Disturbance	1	4,2%
			8. Fear Discrimination	1	4,2%
			9. Fear Immigrants	1	4,2%
			Total All Responses	24	100%

Table 16: Reasons unsafe/unwelcome feeling

In foregoing tables 16, all given answers on the first two questions are shown. The most notable fact of this two tables is the role of “loiterers”. It is by far the most named cause for an unsafe feeling and it is the only aspects which can be found in both tables. Speaking of unsafe feelings, the other answer can be categorized into “sight related issues” and “illegal activity”. The reasons that are given to question 2 can be categorized as “nuisance by/fear for people” and “location-bound issues”.

<u>Missing Supervision</u>	<u>Frequency</u>	<u>Percentage</u>
1. Not Informed/Supervision Invisible	116	53,2%
2. In Need for more Supervision	80	36,7%

3. In Need for Neighborhood Agent	10	4,6%
4. No Need for Supervision	6	2,7%
5. In Need for More Information	4	1,8%
6. Supervision on Different Moments	1	0,5%
7. In Need for Whatsapp-Group	1	0,5%
Total All Responses	218	100%

Table 17: Missing Supervision

In terms of supervision, the respondents in Wijchen-Zuid are pretty unanimous (see table 17). A whopping 89,9% of the numerous recorded answers state that they are not aware of any supervision, of which more than 1 out of 3 specifies the need for more supervision. Only 2,7% of the 218 respondents do not need any supervision. The remaining people are in need of special kinds of supervision/information.

The last element to further elaborate on is the difference between person types, using the DISC model. During the analysis on the dimension “security”, various topics are discussed: safety during daytime and at night, total income and housing. Of course, all related to public space and the greenery. An one-way ANOVA test shows that both during daytime as at night a significant difference exists between the person styles (Sig. 0,046 & 0,044 < 0,05). An accompanying Post Hoc test does not give a definitive answer on which person types do differ from each other. When looking at the ranking of the mean marks as displayed in the table on the next page, some remarks can be done. On

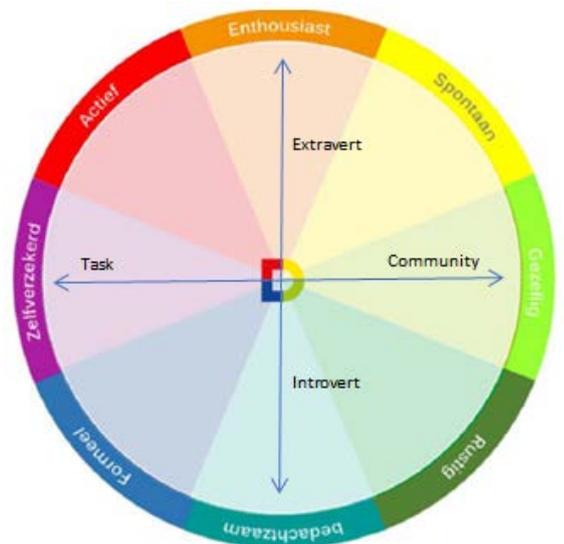


Figure 17: DISC model

top, the active and dynamic red group is the obvious leader in safety-experience, both during daytime as at night. On the other side, the thoughtful and formal aqua and blue groups are feeling least safe at both times. Till now on, the aqua and blue group are found back on the last spots often. The red group scores best on the general appreciation and safety scores, but is found back at the last spot when talking about mental health.

<u>Person Type</u>	<u>Mean Daytime</u>	<u>Person Type</u>	<u>Mean Night</u>
1. Red (Active & Dynamic)	9,08	1. Red	8,50
2. Yellow (Spontaneous & Trendy)	8,45	2. Lime	7,28
3. Lime (Cozy & Friendly)	8,31	3. Yellow	7,27
4. Purple (Enterprising & Decisive)	8,27	4. Purple	7,14
5. Orange (Enthusiastic & Creative)	8,26	5. Green	7,00
6. Green (Quiet & Down-to-Earth)	8,17	6. Orange	6,94
7. Aqua (Thoughtful & Respectful)	7,87	7. Blue	6,55
8. Blue (Stylish & Formal)	7,76	8. Aqua	6,33
Total	8,25	Total	7,04

Table 18: Person Types & Safety

When moving on to the total income levels of the respondents, an one way ANOVA test shows us that a significant difference exists between the person types (Sig. 0,045 < 0,05). The introvert aqua group and task-oriented purple group are the best earners in Wijchen-Zuid. As expected, the community-oriented side of the model (yellow, lime and green) are found back at the bottom. An accompanying Post Hoc test shows us that a significant difference exists between the top-3 (aqua, purple and orange) and the last-3 (yellow, lime and green). The last topic which has been discussed in this part “housing” shows no signs of difference between the person types (Sig. 0,106 > 0,05).

5.2.3 Personal Development

The third dimension of quality of life out of the theory of Mitchell is “personal development”, consisting out of the indicators “development through learning” and “development through recreation/leisure” (2000). For the first indicator, the relationship with public space is a difficult one. As stated in the literature study, for the youngest generation, public space can be a starting point in learning how to enter and participate in society in an effective and creative way (Fielding, 2009). This research did not succeed in converting this topic into a survey question, but out of the answers to some open questions, a little can be said about this. Namely, when looking at the general appreciation of the neighbourhood, in 3% of the total responses, people name the opportunity for their children to play as an important activity they do in their neighbourhood. Furthermore, in 5,6% of the total responses, people name the presence of playing grounds as vital ingredient for the appreciation of their neighbourhood. So, without knowing the reason behind the stated importance of playing

grounds, a small group of respondents is committed to the opportunity for their children to play outside and therefore consequently entering public space.

<u>Recreation – Public Space</u>	Value	Sig.
Pearson Correlation	15,634	0,000

<u>Not Enough Possibilities to Recreate</u>	Exp(B)	Sig.
General appreciation	0,592	0,000
Constant	14,423	0,001

Table 19: Recreation & Public Space

Of course, this has a close linkage to the second indicator of personal development, namely “development through recreation/leisure”. With a Pearson’s r test, a possible relationship between recreation in the neighbourhood (corresponding survey question: does your neighbourhood offer enough possibilities to recreate? In which yes = 1 and no = 2) and

<u>Enough Recreation Possibilities</u>	
Yes	229
No	82

staying in public space (in which yes = 1 and no = 2) is tested. Out of the small table on the right, we can see that 73,6% of the respondents is satisfied with the number of recreation possibilities. The upper part of table 19 shows us that a relationship exists (Sig. 0,000 < 0,05), and the value of 15,634 tells us that this relationship is positive. So, the more people are satisfied with the possibilities to recreate in the neighbourhood, the more people are likely to stay in public space. With this, we know that relationships exist between public space and opportunities to recreate on the one hand, and public space and the general appreciation on the other hand (table 7, p. 49). So, one can hypothesis that also the general appreciation of the neighbourhood (independent variable, scale level) and the possibilities to recreate (dependent variable in which yes = 1 and no = 2) correlate with each other. Based on the logistic regression analysis carried out in the lower part of table 19, this is true indeed (Sig. 0,000 < 0,05). According to the odds ratio (Exp(B)) with a value of 0,592, the more people are satisfied with their neighbourhood, the bigger the chance they are satisfied with the possibilities to recreate. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,080 > 0,05).

The linkage between recreation and public space becomes clear when looking at the following open question: Which leisure activities are you missing in your neighbourhood? The top-10 looks as follows:

<u>Missing Leisure Activities</u>	Frequency	Percentage of <i>all</i> responses
1. Cafes/Restaurants	13	19,4%
2. Enough Alternatives Elsewhere	13	19,4%
3. Elderly Activities	7	10,4%
4. Sports Accommodation	7	10,4%
5. Open Space	4	6,0%
6. Public Park	4	6,0%
7. Playground	4	6,0%
8. Seating Facilities	3	4,5%
9. Unspecified Leisure	3	4,5%
10. Tranquility	3	4,5%
Total Responses Top-10	61	91,1%
Total All Responses	67	100%

Table 20: Missing Leisure Activities

In table 20, public space is specifically named as example for the first time. 27% of *all* the responses are directly or indirectly connected to public space. From the other responses, around 20% does not use their own neighbourhood for recreation purposes. The remaining responses are all community based activities and therefore less relevant for this part.

When looking at the person types, an one way ANOVA test shows us that no significant differences exist between the person types regarding the satisfaction with the possibilities to recreate (Sig. 0,121 > 0,05). When looking at the figures, the spontaneous and trendy yellow group is most satisfied with the possibilities to recreate (87,5%). On the other side, only 62,8% of the community-oriented lime group is satisfied with the current situation. Presumably, they want more recreation possibilities with fellow neighborhood residents.

5.2.4 Community Development

The fourth dimension of quality of life based on the theory of Mitchell is “community development”, divided into the indicators “social networks and group relations”, “community structure”, and “political participation” (2000). When looking at these indicators, it is all about the bonds between the people residing in Wijchen-Zuid. Initially, it is interesting to run a test on the possible presence of a relationship between the satisfaction level with the number of contacts (corresponding survey question: how would you value your contact with local residents at the moment? In which 1 = too little and 10 = aplenty) and the general appreciation of the neighbourhood (scale level). The Spearman’s

Rho has been used to determine if a relationship exists, since both variables are of a scale level. The output tells us that a relationship exists (Sig. 0,000 < 0,05). This relationship is of a positive nature, because the correlation coefficient is +0,512. This means, the more respondents are pleased with their current contacts, the more likely they are to appreciate their neighbourhood and vice versa. Moving on to public space as location for meetings, 42% of the respondents do indeed use public space for this purpose. When testing public space as location for meeting people (corresponding survey question: where do you want to meet other people? dependent variable in which 1 = chosen public space and 0 = not chosen public space) and the satisfaction level with the number of contacts (independent variable, scale level) there is no relationship based on the results of a logistic regression analysis shown in table 21 (Sig. 0,657 > 0,05). Also, when looking at the general appreciation of the neighbourhood, there is no relationship with the likeliness to meet people in public space (Sig. 0,784 > 0,05). Lastly, The actual stay in public space has no relationship with meeting people in public space, based on a Pearson's r test (Sig. 0,714 > 0,05). A Pearson's r test has been used since both variables are of a dichotomous nature. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,168 > 0,05).

Meeting in Public Space	Exp(B)	Sig.
General Appreciation	0,976	0,784
Satisfaction Contacts	1,025	0,657
Constant	0,608	0,224

Table 21: Meeting in Public Space & Contacts

Based on this information, there is no demonstrable relation between public space and meetings. This is rather striking when looking at the literature, in which the meeting function of public space seems to be most important in the contemporary discourse (Staehele & Mitchell, 2007; Oosterhuis, 2014).

Meet up in Public Space	
Yes	147
No	203

Another event which tells a lot about the bonds between people is the presence of activities. As displayed in the small table alongside table 22 on the next page, only 22,9% of the respondents are in need of more activities. When running a logistic regression analysis on a possible relationship between people's need for activities (corresponding survey question: do you desire activities in your neighbourhood that are not there yet? dependent variable in which 1 = yes & 2 = no), the number of contacts (independent variable, scale level) and general appreciation (independent variable, scale level), an interesting result appears:

<u>No Need for Activities</u>	Exp(B)	Sig.
Satisfaction Contacts	1,099	0,229
General Appreciation	1,061	0,634
Constant	1,514	0,380

	Value	Sig.
Pearson Correlation	0,168	0,682

Table 22: Activities & Contacts

As you can see in the upper part of table 22, again, there is no relationship between any of the variables. For the independent variable “satisfaction contacts”, the significance of 0,229 is bigger than 0,05 although one could hypothesize that the number of contacts has something to do with the need for activities. Furthermore, the general appreciation of the neighbourhood

Need for Activities	
Yes	75
No	252

does not seem to have any influence on the need for activities as well. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,938 > 0,05). Lastly, when testing a relationship between the need of activities and staying in public space (both dichotomous variables and thus a Pearson’s r test), as shown in table 22 in the lower part, again, no relationship exists (Sig. 0,682 > 0,05).

This section is also supplemented with a few open questions, namely:

- Where do you want to meet other people?
- If relevant: What activities do you need in your neighbourhood?

The results are shown in table 23:

<u>Location Meeting</u>	Frequency	Percentage	<u>Needed Activities</u>	Frequency	Percentage
1. Outdoor Space	147	26,4%	1. Neighbourhood	30	44,1%
2. Indoor Mall	118	21,8%	Activities		
3. Neighbourhood	101	18,1%	2. Cafes/Restaurants	11	16,2%
Activities			3. Sport Union	9	13,2%
4. Cafes/Restaurants	80	14,4%	4. Playing Grounds	4	5,9%
5. Community Center	66	11,8%	5. Play Union	3	4,4%
6. Sports/Play Union	45	8,1%	Total All Responses	68	100%
Total All Responses	557	100%			

Table 23: Location for Meetings & Needed Activities

The information in table 23 is not in line with the tests carried out in SPSS. The first open question shows us that outdoor space is (with a percentage of 26,4% of all responses) the most popular location for people to meet up. Also in both tables, the role of neighbourhood activities stands out with 18,1% and 44,1% of the total. This is a contradictory image when comparing with SPSS-tests on the general appreciation of the neighbourhood. Apparently, these frequency-numbers which suggest a

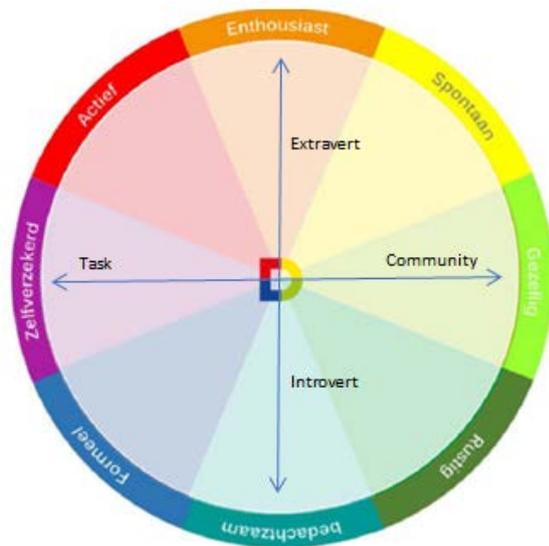


Figure 18: DISC model

relationship between public space, meetings and/or activities are not strong enough to speak of actual significance.

The last item which needs to be further explained is the difference between the person types out of the DISC model. In this part, several topics are dealt with, namely public space as location for meetings, satisfaction with contacts and the need for more activities; all related to public space. An one-way ANOVA test tells us that no significant difference exists between the person types when looking at public space as meeting ground (Sig. 0,841 > 0,05).

When looking at the ranking itself, the positive outliers are the purple and aqua groups with a score of respectively 54,5% and 50% of the respondents that use public space for meeting purposes. The negative outliers are the red and green person types with respectively 33,3% and 36,2%. The fact that these groups are opposites of each other (see figure 18) underlines the absence of a significant difference between the person types. Moving on to the next topic “satisfaction with the number of contacts” (in which 1 = too little and 10 = plenty) a very obvious result appears. An ANOVA test shows a significant difference between the

different person types (Sig, 0,004 < 0,05). Table 24 shows the ranking. The top-3 is formed by the extravert and community-oriented quadrant (yellow, lime and orange). On the other hand, the most negative types regarding their contacts are the ones in the introvert and task-oriented quadrant. An accompanying Post Hoc test shows that indeed a significant difference exists between

Person Type	Frequency	Mean
1. Yellow (Spontaneous & Trendy)	64	7,61
2. Lime (Cozy & Friendly)	54	7,39
3. Orange (Enthusiastic & Creative)	88	7,08
4. Green (Quiet & Down-to-Earth)	47	7,06
5. Red (Active & Dynamic)	12	6,83
6. Purple (Enterprising & Decisive)	22	6,64
7. Aqua (Thoughtful & Respectful)	30	6,43
8. Blue (Stylish & Formal)	29	5,93
Total	346	7,03

Table 24: Person Types

these two quadrants. The last topic within this paragraph “need for more activities” does not show any significant differences between the person styles, based on an ANOVA test (Sig. 0,482 > 0,05). Nice to mention: the person style most in need for activities is unsurprisingly the community-oriented lime group with 32,0% of the group in need for more contacts. the counterpart is the formal blue group with only 11,1% in need of more activities.

5.2.5 Services

The fifth dimension of quality of life is “services”. In the theory of Mitchell, natural resources and goods are also part of this dimension (2000). As stated in the conceptual framework (p. 21), these two indicators are less important. Therefore, in this paragraph, the research will limit itself to the remaining indicators out of the theory, namely “services” and “social infrastructure”. Services which are directly connected to public space are parking facilities. Therefore, a logistic regression is carried out between the two variables “staying in public place” (dependent variable in which yes = 1 and no =2) and “quality of the parking facilities” (corresponding survey question: are you satisfied with the quality of the parking facilities in your neighbourhood? Independent variable in which 1 = completely not satisfied and 10 = completely satisfied). “Not staying in public space” is the event for which this regression will predict odds.

Not staying in public space	Exp(B)	Sig.
Quality Parking facilities	0,744	0,000
Constant	0,904	0,834

Table 25: Parking Facilities & Public Space

Table 25 shows us that a relationship exists between the two variables (Sig. 0,000 < 0,05). For each point the quality mark increases, the odds to not stay in public space are multiplied with 0,744 (Exp(B)) and therefore decrease. This means, the higher the quality of parking facilities, the higher the odds to stay in public space. The Hosmer-Lemeshow test shows us that this model

Staying in Public Space	
Yes	299
No	42

fits the data (Sig. 0,074 > 0,05). When changing the variable “staying in public space” to “the general appreciation of the neighbourhood” (scale level), a Spearman Rho test (both scale variables) shows a significance of 0,000, which indicates a relationship, with a positive value of 0,235. This means, the higher the general appreciation of the neighbourhood, the higher the chance of a high mark regarding parking quality. A test if people who miss certain services seek for entertainment in public space feels

a bit far-fetched. The outcome of the corresponding Pearson's r test (both dichotomous variables) shows indeed that such a relationship does not exist (Sig. 0,846 > 0,05).

When moving on to the next indicator "social infrastructure", a link to public space is difficult to make. However, the need to be kept informed regarding neighbourhood developments (corresponding survey question: do you want to be kept informed regarding neighbourhood developments? dependent variable in which yes = 1 and no = 2) gives insight in the involvement with the neighbourhood and with this, it also can serve as a further tightening of the general appreciation of the neighbourhood (independent variable, scale level). 61,4% of the people in Wijchen-Zuid wants to be kept informed, as displayed in the small table attached to table 26. "No need to be kept informed" is the event for which this regression will predict odds.

No Need to be Kept Informed	Exp(B)	Sig.
General Appreciation	1,156	0,118
Constant	0,221	0,027

Table 26: Information & General Appreciation

The outcome of this regression analysis tells us that a further tightening of the general appreciation by means of involvement with the neighbourhood is not the case. The significance of 0,118 is higher than 0,05 and therefore, no relationship exists between the two variables. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,347 > 0,05).

Need to be Kept Informed	
Yes	208
No	131

For this dimension, one open question has been asked: Which services do you miss in Wijchen-Zuid? The results are shown in the following table:

Missing Services	Frequency	Percentage
1. Cafes/Restaurants	72	49,7%
2. Meeting Place	34	23,4%
3. Health Care Service	24	16,6%
4. Day-Care	9	6,2%
5. Office Space	6	4,1%
Total All Responses	145	100%

Table 27: Missing Services

Table 27 on the previous page shows us that almost one third of the total responses are of a community level (cafes/restaurants & meeting place). It tells us that the need for community is present in Wijchen-Zuid. This did not appear out of the tests in relation to public space, but it becomes present when looking at the missing services. The other answers are of a work or health related nature.

The last item to deal with is the possible difference between person types out of the DISC-model. In this paragraph, the quality of parking lots and the need to be kept informed regarding developments in the neighbourhood have been analyzed. Let's see if differences exist between the person types: based on an ANOVA test, there is no significant difference when talking about the quality of the parking facilities (Sig. 0,118 > 0,05). Nice to mention: same as with the general appreciation and with the security rankings, the active and dynamic red group is found on top (in this case with a score of 7,5 in which 1 = terrible parking lots and 10 = excellent parking lots) and the formal, thoughtful and introvert blue and lime categories at the bottom (in this case with a shared score of 6,28 on the same scale). Also for the need to be kept informed, no significant differences are recorded by the ANOVA test (Sig. 0,685 > 0,05). The leader in the ranking is the task-oriented enterprising purple group and the thoughtful aqua group. The first group is a logical person type at the top, as development tends to go hand in hand with entrepreneurship. The quiet and down-to-earth green types are found at the last spot.

5.2.6 Physical Environment

The sixth and last variable of quality of life according to Mitchell is "physical environment", consisting out of the indicators "nuisance", "visual perception and scenic quality", "climate" and "pollution" (2000). As stated in the conceptual model (p. 21), the indicator "climate" is not important and will not be dealt with in this analysis. The two indicators "nuisance" (corresponding survey questions: do you experience nuisance in your neighbourhood? / Are there any issues of vandalism in your neighbourhood? For both applies: yes = 1 and no = 2) and "pollution" (corresponding survey question: is your neighbourhood generally clean enough? In which yes = 1 and no = 2) will be dealt with simultaneously in table 28, using Pearson's r tests (all dichotomous variables):

<u>Staying in Public Space</u>	Value	Sig.
Nuisance	-0,238	0,000
Cleanliness	0,105	0,058
Intactness	-0,140	0,012

Table 28: Pollution, Nuisance & Public Space

Table 28 shows some remarkable results. Two variables show a relationship with staying in public space, namely “nuisance” and “intactness” (Sig. 0,000 & 0,022 < 0,05), in which nuisance has the strongest correlation with the lowest possible asymptotic significance. The negative values of -0,238 and -0,140 are not surprising here: the more nuisance, the smaller the odds to stay in public space and the more vandalism, the smaller the odds to stay in public space. Striking here is the absence of a correlation between staying in public space and cleanliness. According to the literature study, the level of cleanliness contributes to a feeling of safety and is an important factor in deciding to enter public space or to avoid it (Mehta, 2014; Machielse, 2015). Here in Wijchen-Zuid, correlations of this kind cannot be made.

Moving on to the indicator “visual perception and scenic quality”, the quality of the greenery (corresponding survey question: are you satisfied with the public greenery in your neighbourhood? In which yes = 1 and no = 2) and infrastructure (corresponding survey question: are you satisfied with the roads, bike lanes and pathways in your neighbourhood? In which yes = 1 and no = 2) have been tested alongside the willingness to stay in public space. As these categories are all of a dichotomous/nominal nature, Pearson’s r tests have been used:

Staying in Public Space	Value	Sig.
Quality Greenery	0,146	0,007
Quality Infrastructure	0,029	0,594

Table 29: Greenery, Infrastructure & Public Space

Again, the results show a rather divided outcome. There is a positive relationship between staying in public space and the quality of the greenery (Sig. 0,007 < 0,05). This means, the better the rating of the greenery, the bigger the odds to stay in public space: an obvious result. In terms of infrastructure, no relationship exists (Sig. 0,594 > 0,05). Thus, the operationalization of “public place” including infrastructure as used in this research is not reflected by this Pearson’s r test.

To complete the picture, All these different aspects of the physical environment are compared with the general appreciation of the neighbourhood as well, to see if similar results show up when the focus is not limited to public space, but seen in the wider context. Logistic regression analysis has been carried out, in which the foregoing aspects are all the dependent variables of a dichotomous nature and the general appreciation is the independent variable of a scale level. The results are shown in table 30 on the next page.

<u>Nuisance</u>	Exp(B)	Sig.	Hosmer-Lemeshow
General Appreciation	2,289	0,000	0,450
<u>Cleanliness</u>			
General Appreciation	0,656	0,000	0,893
<u>Intactness</u>			
General Appreciation	1,225	0,093	0,159
<u>Quality Greenery</u>			
General Appreciation	0,683	0,000	0,252
<u>Quality Infrastructure</u>			
General Appreciation	0,816	0,023	0,203

Table 30: General Appreciation & Physical Environment

These tests show a somewhat different picture. The only variable which does not correlate with the general appreciation of the neighbourhood is “intactness” this time (Sig. 0,093 > 0,05), instead of “cleanliness” seen earlier in table 28. The absolute outlier in terms of the odds ratio (Exp(B)) is “nuisance”, with every point the general appreciation mark increases, the odds that the respondent does not experience any nuisance more than double. This is in line with the test on public space, since nuisance is the outlier there as well. When looking at the values for the Hosmer-Lemeshow tests, these are all higher than 0,05 which means that all five logistic regression models fit the data.

Let us have a look at possible differences between the person styles and the five central topics in this paragraph, viz., nuisance, cleanliness, intactness, quality of the greenery and quality of the infrastructure. To get straight to the point, only when talking of the quality of the infrastructure a significant difference exists between the person types (Sig. 0,000 < 0,05). According to the accompanying Post Hoc Test, this difference is significant between the enthusiastic and extravert orange group and the last-3 (yellow, lime and blue). As displayed in table 31 on the next page, the extravert and task-oriented side is the most satisfied quadrant. Comparable to several tests earlier, the formal and thoughtful blue and aqua groups are the least satisfied. The blue group is a strong negative outlier with more than three-quarters of the people dissatisfied with the infrastructure, opposed by the extravert orange group out of which more than three-quarters of the people is satisfied.

<u>Person Type</u>	Frequency	Satisfied Infra %
1. Orange (Enthusiastic & Creative)	87	77,0%
2. Red (Active & Dynamic)	12	66,7%
3. Purple (Enterprising & Decisive)	21	57,1%
4. Aqua (Thoughtful & Respectful)	30	56,7%
5. Green (Quiet & Down-to-Earth)	45	55,6%
6. Yellow (Spontaneous & Trendy)	64	48,4%
7. Lime (Cozy & Friendly)	54	46,2%
8. Blue (Stylish & Formal)	29	24,1%
Total	342	56,1%

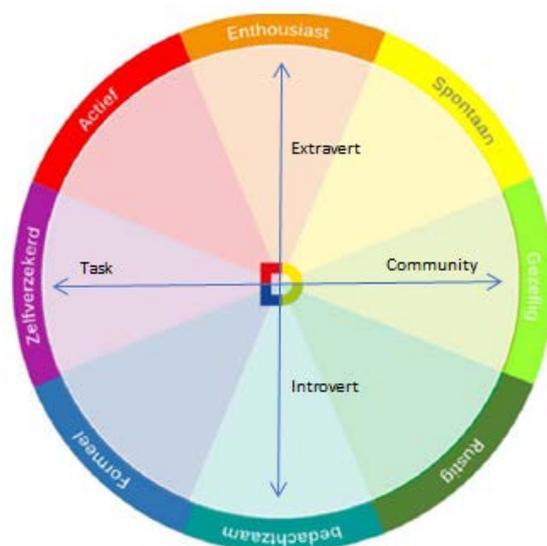


Table 31: Person Types & Infrastructure

Although, no significant difference between the person types exists on the other four topics, it still is interesting to look at the positive and negative outliers for each topic. This has been done in table 32.

<u>Nuisance</u>	Person Type	Satisfied in %
Positive Outlier	Red (Active & Dynamic)	75,0%
Negative Outlier	Aqua (Thoughtful & Respectful)	48,3%
<u>Cleanliness</u>		
Positive Outlier	Red (Active & Dynamic)	83,3%
Negative Outlier	Green (Quiet & Down-to-Earth)	46,7%
<u>Intactness</u>		
Positive Outlier	Red (Active & Dynamic)	100%
Negative Outlier	Purple (Enterprising & Decisive)	76,2%
<u>Quality Greenery</u>		
Positive Outlier	Red (Active & Dynamic)	75,0%
Negative Outlier	Blue (Stylish & Formal)	44,8%

Table 32: Person Types & the Physical Environment

The foregoing table shows a familiar image. The active and decisive red group is the positive outlier in all categories. The negative outliers are all different, but can all be found in the task-oriented/introvert quadrant (cleanliness excepted). This image is found back in pretty much all of the foregoing tests (mental health and satisfaction with infrastructure excepted).

6. Survey Findings TKWM

6.1 General Appreciation of TKWM

Five different variables determine the general appreciation of the TKWM-area. As seen in table 33 below, the mean marks for the different variables are higher than seen earlier in Wijchen-Zuid. The negative outlier in Wijchen-Zuid, image of the neighbourhood, has a solid 7,59 mark here in the TKWM area. The only negative outlier is the feeling of safety during night. A paired-samples T-test shows that the difference between the feeling of safety at night and during daytime is a significant one (Sig. 0,000 < 0,05). The variables for TKWM differ somewhat from those of Wijchen-Zuid. The overall satisfaction level is rephrased into the overall quality rating of the neighbourhood. The “feel at home” variable as used in chapter 5 lowered the Cronbach’s Alpha to an unreliable value. Therefore, this variable is replaced with the variable “overall appearance of the neighbourhood” (not asked to the respondents in Wijchen-Zuid). With this, the Cronbach’s Alpha has a value of 0,744, which means that these five variables together can form a reliable scale.

	Mean	Minimum	Maximum	Standard Deviation
Quality	7,46	4	10	1,140
Appearance	7,19	1	10	1,816
Image of the Neighbourhood	7,59	1	10	1,490
Safety during the day	8,62	6	10	1,118
Safety at night	6,55	3	10	1,816

Table 33: General Appreciation

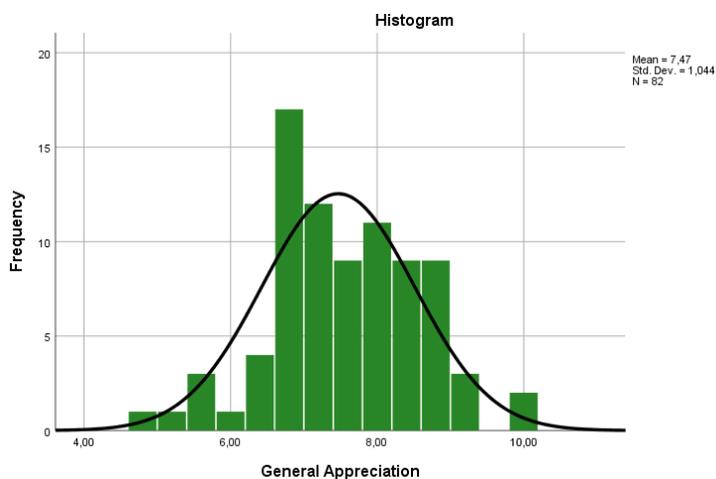


Figure 19: General Appreciation

Cronbach’s Alpha

0,744

In figure 19 on the previous page, the general appreciation is schematically shown. The mean mark is high, with 7,47. There are no signs of normal distribution. Some open questions help with substantiating these figures, namely:

- What do you like about your neighbourhood?
- What do you dislike about your neighbourhood?
- When you walk through your neighbourhood, does this evoke a certain feeling?

The top-10 of the first two questions are shown below:

<u>What do you like?</u>	Frequency	Percentage of <u>All</u> Responses
1. Location	24	20,0%
2. The Greenery	15	12,5%
3. Everything	12	10,0%
4. All-Embracing	10	8,3%
5. Tranquility	7	5,8%
6. Appearance	6	5,0%
7. Facilities	6	5,0%
8. The Lake	5	4,2%
9. The Castle	4	3,3%
10. The Pathways	4	3,3%
Total Responses Top-10	93	77,5%
Total All Responses	120	100%

Table 34: Positive Aspects

In short, one-third of the total of positive aspects, such as the location and facilities, are effects of living in a center area. More than 20% are specific qualities of the area itself. 10% of the recorded answers say they like everything and the remaining answers of the top-10 talk of a certain feeling they like. When comparing this to the general appreciation figures in table 33, the effects of living in the center area could be a cause of the high mean mark for the “image of the neighbourhood”. Furthermore, the specific qualities of the areas which are named here explain the high mean mark for general quality of the area.

<u>What do you dislike?</u>	Frequency	Percentage of <u>All</u> Responses
1. Loiterers	14	15,9%
2. Traffic Safety	14	15,9%

3. Nothing	13	14,8%
4. The Old Town Hall	9	10,2%
5. Parking Lots	5	5,7%
6. The Built Environment	4	4,5%
7. The Crowds	3	3,4%
8. Noise Disturbance	3	3,4%
9. Difficult to Pass	3	3,4%
10. the Cars	2	2,3%
Total Responses Top-10	70	79,5%
Total All Responses	88	100%

Table 35: Negative Aspects

Almost 40% of the negative aspects is criticism on specific parts of the physical environment. 25% of the responses are nuisance-related complaints (which could be a reason for the relatively low “safety at night” mark in table 33) and the remaining 15% of the respondents highlight the absence of negative aspects. When comparing the total response, the respondents named more positive (120) than negative (88) aspects. Furthermore, there are no contradictory answers like in the previous chapter. Moreover, there are some complementary answers given: **tranquility** – **the crowds** and **everything** – **nothing**. When looking at the third question, the top-10 looks as follows:

<u>What feeling do you have?</u>	Frequency	Percentage of <u>All</u> Responses
1. Satisfaction	11	20,0%
2. Tranquility	8	14,5%
3. Nostalgia	8	14,5%
4. Enjoying the Greenery	5	9,1%
5. Feel at Home	3	5,5%
6. Recognition	3	5,5%
7. Nice Atmosphere	2	3,6%
8. Nice Appearance	2	3,6%
9. Coziness	2	3,6%
10. Irritation	2	3,6%
Total Responses Top-10	46	83,6%
Total All Responses	55	100%

Table 36: Feelings

Table 36 fits the foregoing tables and figures: the feelings are mainly of a positive nature. Only 2 respondents (3,6%) feel irritation of some kind. With this, the open questions underline the high mean mark given for the general appreciation.

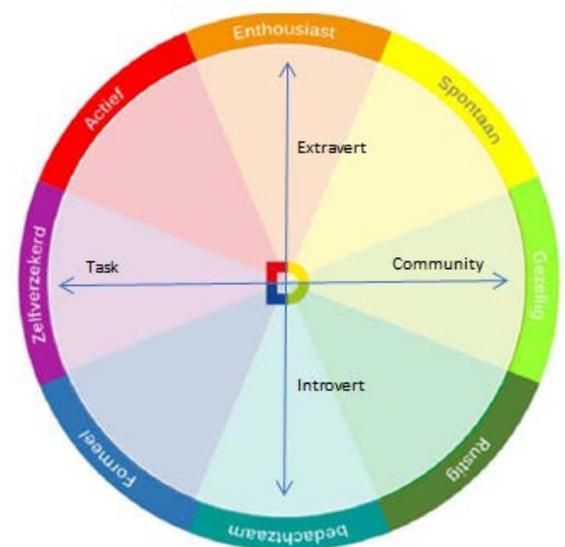
The last item which needs to be further explained is the DISC model. In the following figure, the distribution of the different person types in the TKWM-area is shown (see figure 4 on page 26 or the figure alongside table 37 for an elaboration on the exact meaning of the different colors):

	Red	Orange	Yellow	Lime	Green	Aqua	Blue	Purple
Wijchen	5,0%	13,2%	11,7%	18,6%	18,0%	16,6%	9,9%	6,9%
TKWM-Area	6,7%	16,0%	16,0%	17,3%	16,0%	13,3%	5,3%	9,3%

In the upper bar, the percentages of the municipality of Wijchen are shown. When comparing this to the figures of the TKWM-area, some remarks can be done: the task-oriented and extravert quadrant (red, orange & purple) is overrepresented in the project area, also the spontaneous and trendy yellow category is seen relatively high in this area. Same as for the municipality in general, the community-oriented, cozy and friendly lime people are the biggest group in the area. The general appreciation of the TKWM-area sorted by color looks as follows:

<u>Person Type</u>	<u>Frequency</u>	<u>Mean</u>
1. Blue (Stylish & Formal)	4	8,00
2. Green (Quiet & Down-to-Earth)	10	7,80
3. Purple (Enterprising & Decisive)	7	7,57
4. Orange (Enthusiastic & Creative)	12	7,55
5. Lime (Cozy & Friendly)	13	7,38
6. Red (Active & Dynamic)	5	7,32
7. Yellow (Spontaneous & Trendy)	12	7,30
8. Aqua (Thoughtful & Respectful)	10	7,12
Total	73	7,47

Table 37: Person Types



The resulting top-3 can be found in the introvert half of the scheme, leaning towards the task-oriented side. Surprising in this, the most notably introvert person type “aqua” is found on the spot with the lowest mean mark. Thus, this result is not as quadrant-oriented as seen in the Wijchen-Zuid case. This is in line with the one-way ANOVA test, which says that the differences between the mean marks are

not significant (Sig. 0,829 > 0,05). Before actually starting the quality of life study in the TKWM-area, it is interesting to test possible differences between the colors regarding staying in public space, as staying in public space is a vital variable and starting point for a lot of SPSS tests to come. An ANOVA test tells us that no significant differences exist (Sig. 0,707 > 0,05).

6.2 Quality of life study TKWM

The same quality of life study done for Wijchen-Zuid will be done for the TKWM-area. Some tests will be different though, since the surveys were not exactly the same in both research areas as stated earlier. Of course, the six dimensions out of the theory of Mitchell will be used once again (2000). Also, logistic regression analysis will be the most used test. When a variable is named for the first time, it is introduced by stating the used survey question, the nature of the variable (dependent/independent) and the corresponding answer categories. When a variable is named several times, only the nature of the variable is stated later on, to ensure readability. When another test has been used, this is clearly stated and explained in the text. Each part of this quality of life study is structured in the same way: it starts with the SPSS tests. Thereafter, the figures and potential relationships are supplemented with open questions, after which different views by different respondents upon the outlined analysis is shown by using the DISC model. Important note: There are no significant differences between the person types based on ANOVA tests throughout the whole chapter, presumably due to the relatively low amount of respondents divided into a relatively high amount of person styles. Nevertheless, the positive and negative outliers will be named to give an indication.

6.2.1 Health

The first dimension of quality of life is “health”, divided in the indicators “physical health” and “mental health” (Mitchell, 2000). For the first indicator, the following question has been asked: does the outdoor space of the project-area invites you to exercise? (in which yes = 1 and no = 2) When relating this to the actual stay in public space (corresponding survey question: do you like staying in public space in the project area? In which yes = 1 and no = 2) using a Pearson’s r test (both dichotomous variables), the following output appears:

<u>Staying in Public Space</u>	Value	Sig.
Inviting Outdoor Space	-0,056	0,618

Table 38: Inviting Outdoor Space & Public Space

Judging by the significance, there is no relationship between the two variables ($0,618 > 0,05$). These both dependent variables are compared to the general appreciation of the neighbourhood (independent variable, scale level in which 0 = no appreciation and 10 = maximum appreciation). The general appreciation does not have any relationship with staying in public

Staying in Public Space	
	Space
Yes	79
No	3

space ($0,591 > 0,05$). A whopping 96,4% of the people like to stay in public space in the TKWM-area. When looking at “inviting outdoor space”, there is a relationship (Sig. $0,021 < 0,05$). 89,3% of the people think the outdoor space is inviting. The event for which this regression predicts odds is “a not inviting outdoor space”, for which the odds ratio is 0,400 (the ratio between the possibility that the event will occur and the possibility the event will not occur). This means, the higher the general appreciation mark, the higher the odds that respondents are invited to exercise in outdoor space. To assure that the model adequately describes the data, a Hosmer-Lemeshow test provides information on the overall model fit. This test indicates a good fit if the significance value is more than 0,05 (IBM Knowledge Center, n.d.). In this case, the Sig. value is 0,104, which means that the model fits the data.

When moving on to the second indicator “mental health”, the following question has been submitted to the respondents: do you experience a certain feeling when you walk through the project area? In which yes = 1 and no = 2 (dependent variable). The odds that a certain feeling changes the general appreciation of the neighbourhood (independent variable, scale level) is tested with a regression analysis:

No Feeling	Exp(B)	Sig.
General Appreciation	0,652	0,102
Constant	8,357	0,269

Table 39: Feeling & General Appreciation

Once again, no relationship exists between the two variables (Sig. $0,102 > 0,05$). The Hosmer-Lemeshow test shows us that this model fits the data (Sig. $0,171 > 0,05$).

These figures are supplemented with some open questions, namely:

- Why does your neighbourhood’s outdoor space challenge you to exercise? Or: Why does your neighbourhood’s outdoor space not challenge you to exercise?
- Why do you want to stay in public space in your neighbourhood? Or: Why do you not want to stay in public space in your neighbourhood?

<u>Challenging</u>	Frequency	Percentage
1. Walking	39	52,0%
2. The Greenery	9	12,0%
3. Cycling	7	9,3%
4. The Lake	6	8,0%
5. The Diversity	3	4,0%
6. The Surroundings	2	2,7%
7. Facilities	2	2,7%
8. Activities	1	1,3%
9. Accessibility	1	1,3%
10. Walking the Dog	1	1,3%
Total Responses Top-10	71	94,7%
Total All Responses	75	100%

<u>Not Challenging</u>	Frequency	Percentage
1. Difficult to Pass	3	37,5%
2. Loiterers	2	25,0%
3. High-Rise	1	12,5%
4. Garbage	1	12,5%
5. Too Stony	1	12,5%
Total All Responses	8	100%

Table 40 shows us that almost all of the responses given on these questions are of a positive nature, which is to be expected since 89,3% of the respondents think the outdoor space is inviting. Very striking is the role of “walking”. The possibility to walk accounts for more than half of

Table 40: (not) Challenging Aspects

the answers in the left-hand table. The other answers why the neighbourhood challenges to move can be categorized in specific activities people do in the area and qualities of the area. The few answers given in the right-hand table can be categorized in nuisance-related issues and accessibility difficulties. The answers to the other questions are displayed in table 41:

<u>Staying in Public Space</u>	Frequency	Percentage
1. Walking	52	55,3%
2. Cycling	14	14,9%
3. Cafes/Restaurants	7	7,4%
4. Meeting People	4	4,2%
5. The Lake	3	3,2%
6. To Jog	2	2,1%
7. Watching Birds	2	2,1%
8. Activities	1	1,1%
9. Walking the Dog	1	1,1%
10. To Relax	1	1,1%
Total Responses Top-10	87	92,6%
Total All Responses	94	100%

<u>Barriers</u>	Frequency	Percentage
1. Loiterers	1	50,0%
2. Noisy	1	50,0%
Total All Responses	2	100%

When looking at these tables, a similar picture appears as in table 40. Again, the negative aspects are negligible, since 96,4% of the people do stay in public space, and the striking role of walking stands out. This time, also cycling is a prominent activity which is a reason to stay in public space. The other reasons to stay in public space can be categorized as sporting, relaxing and socializing. These categories

Table 41: (not) Staying in Public Space

are in line with the most important functions of public space stated in the literature. This is perfectly reflected by the following quote by Stephen Carr in his book on public space: “Public spaces provide movement, nodes of communication, playgrounds and green, calm places to relax” (1992).

The last item to further elaborate on is possible differences between person types using the DISC model. The topics that have been discussed in this paragraph are “a challenging outdoor space” and “the evoking of a certain feeling when walking through the area”. When looking at the positive and negative outliers in the rankings, the following picture emerges: when talking of the challenging outdoor space, the quiet and down-to-earth green types and the formal and stylish blue group stand out. 100% of this group thinks the outdoor space is challenging. The list is closed by the enterprising and decisive purple group with 71,4% qualifying the outdoor space as challenging. In terms of experienced emotions, again the green group stands out with 90% of the respondents concerned experiencing emotions. Only 50% of the thoughtful and respectful aqua group does experience emotions when walking through the project area.

6.2.2 Security

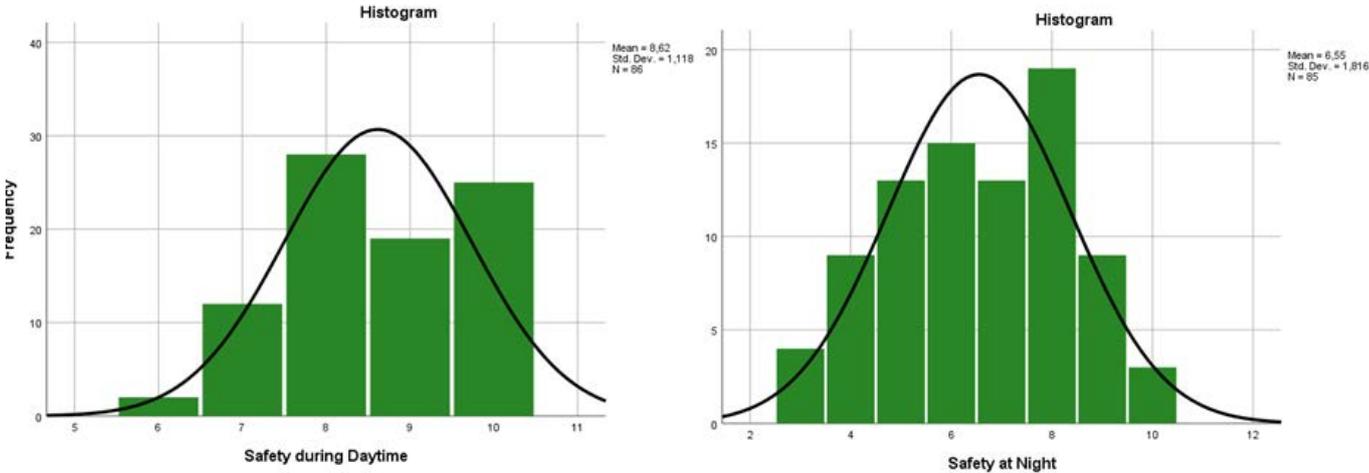


Figure 20: Safety during Daytime & at Night

The second dimension of quality of life is “security”, which is divided into the indicators “crime/safety”, “economic security” and “housing” (Mitchell, 2000). For the first indicator, the respondents have been asked about their sense of safety, both during the day as at night (by means of a mark between 1 (totally unsafe) and 10 (totally safe)). The results are schematically shown in figure 20. As stated earlier, there is a significant difference between the feeling of safety during daytime and at night. The answers are less scattered during daytime than at night, with a 6 being the minimum, instead of a 3 at night. A possible relationship between safety experience (independent variables, scale level) and staying in

public space (dependent variable in which yes = 1 and no = 2) has been tested with logistic regression analysis. “Not staying in public space” is the event for which this regression predicts odds:

Not staying in public space	Exp(B)	Sig.
Safety during Daytime	2,116	0,271
Safety at Night	0,618	0,196
Constant	0,001	0,206

Table 42: Safety & Public Space

Again, there is no correlation between the variables based on these tests (Sig. 0,271 & 0,196 > 0,05). This is a different picture than seen earlier in chapter 5, in which the “safety at night” variable was strongly correlated with the odds to stay in public space. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,483 > 0,05). When changing the event for which the analysis predicts odds to “not knowing any unsafe spots” (corresponding survey question: do you know (a) certain spot(s) in which you do not feel safe on a regular basis within the project area? dependent variable in which yes = 1 and no = 2), the result differs:

Staying in Public Space	
Yes	79
No	3

Not Knowing Unsafe Spots	Exp(B)	Sig.
Safety during Daytime	0,891	0,647
Safety at Night	2,005	0,000
General Appreciation	5,225	0,003
Constant	0,023	0,052

Table 43: Unsafe Spots & Safety

In this case, there is a correlation between not knowing unsafe spots and the feeling of safety at night (0,000 < 0,05). The odds ratio (Exp(B)) of 2,005 means that for every point the safety at night mark increases, the chance that this respondent knows no unsafe spots doubles. In other words, the safer a respondent feels at night, the smaller the chance he/she knows unsafe spots. More than half of the respondents (54,9%) are aware of unsafe spots in the TKWM-area. The results did not change for the variable “safety during daytime” in comparison with table 42 (Sig. 0,647 > 0,05). Lastly, when looking at the appreciation of the neighbourhood in general, there is an interesting relationship with unsafe spots (Sig. 0,003 < 0,05). The odds ratio (Exp(B)) is very high with

Knowing Unsafe Spot	
Yes	45
No	37

5,225, which means that, with every point the appreciation mark increases, the odds that this respondent knows unsafe spots decreases drastically. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,053 > 0,05).

When moving on to the next indicator “economic security”, a possible relationship between staying in public space (dependent variable in which yes = 1 and no = 2), the total income of the respondents (corresponding survey question: what was your total gross income in 2017? Independent variable of a scale level in which 1 = €0-€9,999 2 = €10,000-€24,999 3 = €25,000-€49,999 4 = €50,000-€74,999 5 = €75,000-€99,999 and 6 = €100,000 and more) and the general appreciation (independent variable, scale level) is measured. The result is shown in table 44:

<u>Not staying in public space</u>	Exp(B)	Sig.
General Appreciation	0,595	0,350
Total Income	0,919	0,760
Constant	2,487	0,814

Table 44: Total Income & Public Space

The table shows us that a relationship between any of the variables does not exist (Sig. 0,350 & 0,760 > 0,05). In comparison to Wijchen-Zuid, this is a different outcome. Namely, in chapter 5, a relationship between staying in public space and the general appreciation did exist. The absence of a relationship when looking at the total income is the same in both cases. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,614 > 0,05).

Staying in Public Space	
Yes	79
No	3

<u>Disliking Greenery</u>	Exp(B)	Sig.
General Appreciation	0,253	0,000
Total Income	0,932	0,597
Constant	13155,635	0,001

Table 45: Total Income & Greenery

When changing the events for which this regression predicts odds to “disliking the greenery” (corresponding survey question: are you satisfied with the public greenery in the project area? Dependent variable in which yes = 1 and no = 2), a somewhat different picture emerges. Namely, in this case, there is a relationship between the general appreciation (independent variable, scale level) of the neighbourhood and the extent to which people like the greenery (Sig. 0,000 < 0,05). In total, 85%

Liking Greenery	
Yes	68
No	12

of the respondents do like the greenery. The odds ratio (Exp(B)) is small (0,253), which means that, with every point the general appreciation mark increases the odds that this respondent likes the greenery strongly increases. The results are shown in table 45 on the previous page. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,083 > 0,05). When running a Pearson’s r test on the possible relation between staying in public space and the rating of the greenery (both dichotomous variables) there is no relationship (Sig. 0,888 > 0,05).

The last indicator of the dimension security is “housing”. As stated earlier, the relationship between staying in public space (in which yes = 1 and no = 2) and the built environment (corresponding survey question: are you satisfied with the current variation in the built environment in the project area? In which yes = 1 and no = 2) is important in present-day urban planning (De Waard & Rodenburg, 2007). In total, a large majority of 85% of the respondents is satisfied with the built environment. Contradictory to this statement and to the results seen in Wijchen-Zuid, there is no relationship between these two dichotomous variables in TKWM, based on a Pearson’s r test (0,174 > 0,05). However, these figures are related to the built environment and public space in general and therefore do not explicitly contradict the statement by De Waard & Rodenburg (2007), as this test does not say anything about specific buildings around specific public spaces.

Accompanying to the foregoing figures, some open questions have been asked in order to specify the positive and negative aspects. These questions are:

- If relevant: why do you feel unsafe on a specific outdoor space in your neighbourhood?
- If relevant: why do you feel not welcomed on a specific outdoor space in your neighbourhood?

These questions have been worked out in the tables 46.

<u>Reason Unsafe Feeling</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Reason not Welcome</u>	<u>Frequency</u>	<u>Percentage</u>
1. Loiterers	45	50,6%	1. Loiterers	6	35,3%
2. Drugs	27	30,3%	2. Uncomfortable	6	35,3%
3. Out of Sight	9	10,1%	Atmosphere		
4. Bad Lightning	8	9,0%	3. Unsafe Feeling	2	11,8%
Total All Responses	89	100%	4. Vacancy	1	5,9%
			5. Traffic Safety	1	5,9%
			6. Dirty	1	5,9%
			Total All Responses	17	100%

Table 46: Reason Unsafe Feeling & Reason not Welcome

From the responses as shown in the tables above, some remarks can be done. The most striking one is the role of “loiterers”. In both tables, this is the most given answer. Also in the previous shown open questions (table 35, 40 & 41), “loiterers” was the most stated negative aspect (table 40 excepted). Loiterers seem to be the biggest problem in the TKWM area when talking of unsafe feelings (presumably also the relatively low mean mark for “safety at night”, as included in the general appreciation scale), unwelcome feelings, barriers for staying in public space and general drawbacks of the project area. The exact locations which are most stated as popular spots for loitering are small square “Europaplein” (area 1 in figure 21), parking lot “the Bolster” (area 2) and the underground parking lot at the south side of apartment block “the Oostflank” (area 3). Looking at the other answers, they can be categorized as negative feelings, safety issues and appearance problems.



Figure 21: Popular Loitering Spots

Differences between the person types will be made visible by using the DISC model. In this chapter, several topics are discussed: safety during daytime and at night, unsafe spots, the total income, qualification of the greenery and housing. For an indication regarding safety, the ranking is shown in table 47:

<u>Person Type</u>	<u>Mean Daytime</u>	<u>Person Type</u>	<u>Mean Night</u>
1. Blue (Stylish & Formal)	9,25	1. Blue	7,00
2. Aqua (Thoughtful & Respectful)	9,00	1. Orange	7,00
3. Red (Active & Dynamic)	8,80	3. Purple	6,86
4. Green (Quiet & Down-to-Earth)	8,75	4. Green	6,83
5. Purple (Enterprising & Decisive)	8,71	5. Yellow	6,75
6. Orange (Enthusiastic & Creative)	8,58	6. Aqua	6,30
7. Yellow (Spontaneous & Trendy)	8,33	7. Lime	6,00
8. Lime (Cozy & Friendly)	8,00	8. Red	5,60
Total	8,59	Total	6,56

Tabel 47: Person Types & Safety

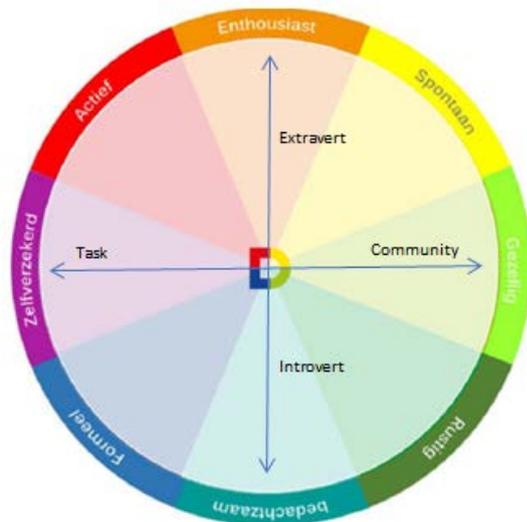


Figure 22: DISC Model

Some remarks can be done on the basis of the above table. The difference in safety experience between day and night is poignant with more than two points. Also, the big difference between the two rankings stands out. The difference between day and night for the red and orange groups stand out most. Lastly, the leader spot for the formal blue group in both rankings is striking in comparison to the situation in Wijchen-Zuid, in which the blue group felt the least safe. When moving on to the next topic “unsafe spots” the positive outlier is again the formal blue group, out of which only 33,3%

is aware of unsafe spots. This is in line with the degree of safety experience by this group as displayed in table 47. The negative outlier is the enterprising and decisive purple group, out of which 71,4% knows unsafe spots. When moving on to the total income level, an obvious result appears: the enterprising purple people are the best earners and the green group, more community-oriented, are earning the least in general. The last two topics which we will discuss here are the quality of the greenery and housing. The two rankings are shown in table 48:

<u>Person Type</u>	Satisfied Greenery in %	<u>Person Type</u>	Satisfied Housing in %
1. Blue (Stylish & Formal)	100%	1. Blue	100%
2. Green (Quiet & Down-to-Earth)	91,7%	1. Aqua	100%
3. Yellow (Spontaneous & Trendy)	75,0%	3. Green	90,9%
4. Lime (Cozy & Friendly)	69,2%	4. Purple	85,7%
5. Aqua (Thoughtful & Respectful)	60,0%	5. Lime	84,6%
6. Orange (Enthusiastic & Creative)	58,3%	6. Orange	83,3%
7. Purple (Enterprising & Decisive)	57,1%	7. Yellow	75,0%
8. Red (Active & Dynamic)	40,0%	8. Red	60,0%
Total	69,3%	Total	84,9%

Table 48: Person Types, Greenery & Housing

Again, in both tables, the formal and stylish blue group is found on top and the active and dynamic red group at the bottom. There is a big difference in the qualification of the greenery and housing. Based on a paired samples t-test, the people in the TKWM are significantly more satisfied with the housing than with the quality of the greenery (Sig. 0,007 < 0,05).

6.2.3 Personal Development

The third dimension of quality of life out of the theory of Mitchell is “personal development”, consisting out of the indicators “development through learning” and “development through recreation/leisure” (2000). For the first indicator, the relationship with public space is a difficult one. As stated in the literature study, for the youngest generation, public space can be a starting point in learning how to enter and participate in society in an effective and creative way (Fielding, 2009). As seen in chapter 9, this research did not succeed in converting this topic into a survey question. Also, none of the answers given on the open questions did say anything – directly or indirectly – about this. Moving on to the second indicator “development through recreation/leisure”, a Pearson’s r test has been used (both dichotomous variables) to determine if a relationship exists between the presence of recreation possibilities (corresponding survey question: does the project area offer enough possibilities to recreate? In which yes = 1 and no = 2) and staying in public space (in which yes = 1 and no = 2). The results are shown in the upper part of table 49:

<u>Recreation – Public Space</u>	Value	Sig.
Pearson Correlation	0,239	0,625

<u>Not Enough Possibilities to Recreate</u>	Exp(B)	Sig.
General appreciation	0,635	0,162
Constant	6,458	0,436

Table 49: Recreation & Public Space

There is no relationship between the two variables (Sig. 0,625 > 0,05). In total, as displayed in the small table, 79,7% of the people are satisfied with the offer of recreation possibilities in the area. In the bottom half of table 49, a logistic regression analysis has tested a possible relationship between the possibilities to recreate (dependent variable in which yes = 1 and no =

Enough Recreation Possibilities	
Yes	51
No	13

2) and the general appreciation of the neighbourhood (independent variable, scale level). “Not enough possibilities to recreate” is the event for which this regression will predict odds. Also in this bigger perspective, there is no such thing as a relationship (Sig. 0,162 > 0,05). The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,390 > 0,05).

When changing the event for which the regression will predicts odds to “not recreating in the neighbourhood” (corresponding survey question: do you use the project area for recreational purposes? dependent variable in which yes = 1 and no = 2), again there is no relationship with the

general appreciation (Sig. 0,741 > 0,05). In total, 73,8% of the people use the neighbourhood for recreation purposes. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,566 > 0,05). The same applies to the Pearson's r test when comparing the two dichotomous variables recreating in the neighbourhood and staying in public space (Sig. 0,084 > 0,05). Out of these tests can be concluded that the appreciation of the neighbourhood and the offer of recreation possibilities does not correlate with the choice whether or not to recreate at all and on which location.

Again, an open question has been asked to the respondents to help qualifying the foregoing figures: Which leisure activities are you missing in your neighbourhood?

Missing Leisure Activities	Frequency	Percentage
1. Community Center	5	41,7%
2. Greenery	3	25,0%
3. Seating Facilities	1	8,3%
4. Tranquility	1	8,3%
5. Leisure for the Elderly	1	8,3%
6. Safe Spots	1	8,3%
Total All Responses	12	100%

Table 50: Missing Leisure Activities

As you can see in table 50, only a few people responded to this question, since almost 80% of the respondents is satisfied with the recreation possibilities. The answers can be categorized in two different areas, namely specific activities (mainly elderly-oriented) and aspects which are lacking in the physical environment.

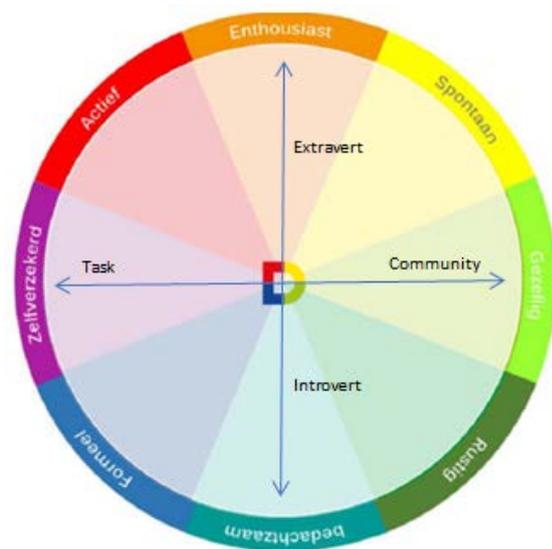


Figure 23: DISC Model

Once again, let us have a look at an indication of the differences between person types based on the DISC model. As we know, there is no significant difference between the person types, but the rankings in itself give a nice idea of the situation. The topics discussed in this chapter are the possibilities to recreate in the area and the actual recreation in the area itself. When looking at the possibilities, 80% of the respondents do not need more options. Especially the task-oriented, introvert quadrant (purple, blue and aqua) is completely satisfied with a score of

100%. The red group is the negative outlier. Only one in four is satisfied with the current offer of recreation possibilities in the area. This information can be better explained when looking at the other topic: do the respondents use the area for recreation purposes? 100% of the red group does, which explains the need for more possibilities. On the other side, only half of the blue group uses the area for recreation, presumably explaining the contradictory digits for this person type.

6.2.4 Community Development

The fourth dimension of quality of life based on the theory of Mitchell is “community development”, divided into the indicators “social networks and group relations”, “community structure”, and “political participation” (2000). This is all about the bonds between the people residing in the TKWM-project area. The first test which will be done for this dimension is about contacts: measuring a possible relationship between the need for more contacts (corresponding survey question: do you want to meet other people in the TKWM area? Dependent variable in which yes = 1 and no = 2) and the general appreciation of their neighbourhood (independent variable, scale level). “No need for more contacts” is the event for which this regression will predict odds:

No Need for More Contacts	Exp(B)	Sig.
General Appreciation	1,254	0,321
Constant	0,240	0,402

Table 51: Contacts & General Appreciation

This table tells us that no relationship exists between the two variables (Sig. 0,321 > 0,05). This is contradictory to the results seen in Wijchen-Zuid. Also, the Hosmer-Lemeshow test shows us that this model does not fit the data (Sig. 0,012 < 0,05). In total, less than half of the respondents is in need for

In Need for Contacts	
Yes	35
No	46

more contacts (43,2%). When running a (pretty far-fetched) Pearson’s r test on the need for more contacts and staying in public space (both dichotomous variables), there is indeed no relationship (Sig. 0,134 > 0,05). When selecting the 19 cases which state that they would like to meet people in public space, the general appreciation mark of the neighbourhood increases from 7,47 to 7,74. Obviously, these respondents are all in need of more contacts in their neighbourhood and they all like to stay in public space. Another event which is highly interesting when talking about bonds between people is the need for activities (corresponding survey question: are you in need of more activities in the TKWM area? In which yes = 1 and no = 2). In total, only 36,1% of the respondents is in need for activities. This has been tested on possible linkages with the other dichotomous variable “need for more contacts”

by using a Pearson's r test (Sig. 0,000 < 0,05; Correlation Coefficient 0,580), the general appreciation (Sig. 0,001 < 0,05; odds ratio (Exp(B)) 2,701) and staying in public space (Sig. 0,208 > 0,05). According to this outcome, two relationships exist, namely with the need for more contacts and the general appreciation. The correlation coefficient of the Pearson's r test tells us that a mildly positive relationship exists between the need for more contacts and the need for more activities, which means, if a respondent is in need for more contacts, the chance increases he/she is in need for more activities as well. In terms of the general appreciation, the relationship is pretty surprising. The event for which this regression predicts odds is "not in need for more activities". The odds ratio of 2,701 tells us that for every point the general appreciation mark increases, the odds to desire more activities in the neighbourhood strongly decreases. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,797 > 0,05). Lastly, there is no relationship between the need for activities and staying in public space. Again, some open questions help with interpreting these foregoing figures, namely:

- Where do you want to meet other people?
- If relevant: What activities do you need in your neighbourhood?

<u>Location Meetings</u>	Frequency	Percentage	<u>Missing Activities</u>	Frequency	Percentage
1. Community Center	26	37,1%	1. Community Center	12	50,0%
2. Outdoor Space	19	27,1%	2. Sports/Play Union	3	12,5%
3. Cafes/Restaurants	13	18,6%	3. Walking Together	3	12,5%
4. Sports/Play Union	12	17,1%	4. Workshops	2	8,3%
Total All Responses	70	100%	5. Drinking Coffee	1	4,2%
			6. Kitchen Garden	1	4,2%
			7. Meetings	1	4,2%
			8. Eating Together	1	4,2%
			Total All Responses	24	100%

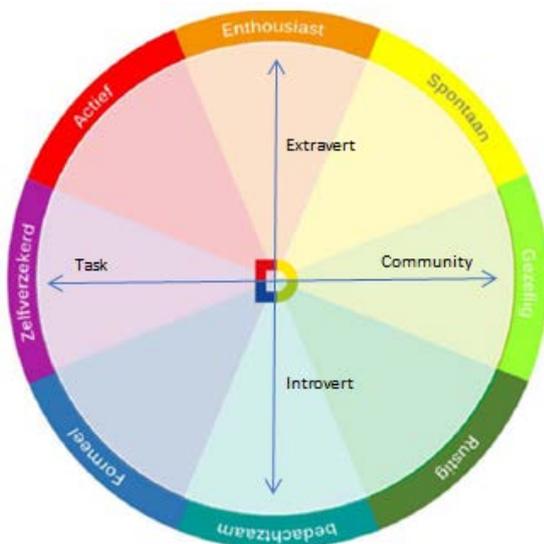


Figure 24: DISC Model

Table 52: Location Meetings & Missing Activities

Some remarks can be done when looking at these tables. The wish for a community center in the TKWM-area stands out. In both tables, the pole-position is taken by this answer. Also in table 50 we saw this as most frequently stated answer. This is in line with the relationship between the need of activities and the need of contacts. Comparing this to the situation in

Wijchen-Zuid, no relationships could be made between the variables included in the community development dimension and thus, the wish for a community center is not present in that case. Also, the other stated activities that are named missing are all of a community based nature. The last item to further elaborate on is an insight in the DISC model. The two topics in this paragraph are the satisfaction with the number of contacts and the need of activities. Based on the mean marks, more than half of the respondents are not in need for more contacts (54,1%). Even a higher share of the respondents is not in need for more activities (63%). For both categories, the active and dynamic red group is the positive outlier with 60% of the respondents in need for more contacts and activities. The negative outlier is unsurprisingly the introvert, thoughtful and formal blue/aqua group in both cases. However, there is a rather striking and paradoxical role for the community-oriented part of the model here (yellow, lime and green), since they are completely discrete in this community-oriented paragraph. When looking at the two topics discussed here, the values in favor of more contacts/activities fluctuate between a meagre 45,5%-58,3%.

6.2.5 Services

The next dimension of quality of life is “services”. In the theory of Mitchell, natural resources and goods are also part of this dimension (2000). As stated in the conceptual framework, these two indicators are less important. Therefore, in this paragraph, the research will limit itself to the remaining indicators out of the theory, namely “services” and “social infrastructure”. In terms of services, the most evocative example in relation to public space is the parking lot. Therefore, the relationship between staying in public space (dependent variable in which yes = 1 and no = 2) and the quality of the parking facilities (corresponding survey question: are you satisfied with the quality of the parking facilities in the project area? independent variable, scale level in which 1 = terrible quality and 10 = excellent quality) have been put to the test. “Not staying in public space” is the event for which this regression predicts odds:

<u>Not staying in public space</u>	Exp(B)	Sig.
Quality Parking facilities	0,447	0,402
Constant	0,319	0,624

Table 53: Public Space & Parking Facilities

In contradiction to the results in Wijchen-Zuid, there is no significant relationship between the two variables here in TKWM (Sig. 0,402 > 0,05).

When changing the test from public space to the general appreciation, a Spearman's r test changes the result (both scale variables). Between these two variables, a relationship exists (Sig. 0,004 < 0,05). The correlation

coefficient of 0,331 tells us that we are dealing with a mildly positive relationship. That means, the higher the general appreciation of the neighbourhood, the higher the chance that he/she gives the quality of the parking facilities a higher grade as well. A test if people who miss certain services seek for entertainment in public space feels a bit far-fetched. Same as in the Wijchen-Zuid case, the outcome of the corresponding Pearson's r test (both yes/no questions) shows that such a relationship does not exist (Sig. 0,198 > 0,05).

Moving on to the second indicator "social infrastructure", the involvement of the respondents with the TKWM-area and the project (corresponding survey question: do you want to be kept informed regarding developments in the TKWM-area? Dependent variable in which yes = 1 and no = 2) can serve as a further operationalization of the general appreciation of the neighbourhood (independent variable, scale level). "Not willing to be informed" is the event for which the regression will predict odds:

Not Willing to be informed	Exp(B)	Sig.
General Appreciation	2,375	0,003
Constant	0,000	0,001

Table 54: Willing to be Informed & General Appreciation

Table 54 shows a contradictory result compared to Wijchen-Zuid. Here, there is a relationship between the two variables (Sig. 0,003 < 0,05), but a striking one. Namely, the higher the general appreciation of the neighbourhood, the lower the willingness to be informed regarding developments in this very neighbourhood. For every point the general

appreciation mark increases, the "not willing to be informed" chance more than doubles. A possible explanation for this can be the confidence that developments will work out well, or that the respondents do not desire further developments the more satisfied they are.). In total, 75% of the respondents are willing to be kept informed. The Hosmer-Lemeshow test shows us that this model fits the data (Sig. 0,226 > 0,05). The figures presented here are once again supplemented with an open question: Do you miss certain facilities? The answers are shown in table 55:

Staying in Public Space	
Yes	79
No	3

Willing to be kept Informed	
Yes	63
No	21

Missing Services	Frequency	Percentage
1. Community Center	23	76,7%
2. Cafes/Restaurants	4	13,3%
3. Healthcare Facility	3	10,0%
Total All Responses	30	100%

Table 55: Missing Services

The result is in line with the answers on previous open questions (table 50 & 52). Again, the desire to have a community center is clearly expressed (76,7% of the cases). The need of healthcare facilities is to be expected, because of the large share of elderly people living in the TKWM project area.

To conclude this paragraph, let us have a look at the person types out of the DISC model. The quality of the parking lots and the willingness to be kept informed are the topics discussed here. For the parking lots, the formal blue group gives once more the best qualification. The friendly and community-oriented lime group is found at the last spot for the first time this chapter. In terms of information, a majority of 75% of the respondents in general want to be kept informed; a large share. The positive outlier is not much of a surprise: the introvert and thoughtful aqua group. The need to be informed is fully in line with the characterizing of this person type. The negative outlier: the formal blue type is more of a surprise. This person type is similar to the aqua type and a similar outcome is therefore to be expected. Presumably, the low number of blue respondents answering this question (4) distorted this image.

6.2.6 Physical Environment

The sixth and last dimension of quality of life is the physical environments, divided into the indicators “nuisance”, “visual perception and scenic quality”, “climate” and “pollution” (Mitchell, 2000). As stated in the conceptual model, the indicator “climate” is not important and will not be dealt with in this analysis. The two indicators “nuisance” (corresponding survey question: do you experience nuisance in the area? Dependent variable in which yes = 1 and no = 2) and “pollution” (corresponding survey question: is the area generally clean enough? Dependent variable in which yes = 1 and no = 2), in relation to staying in public space (in which yes = 1 and no = 2), will be dealt with simultaneously in table 56, using Pearson’s r tests (all dichotomous variables):

Staying in Public Space	Value	Sig.
Nuisance	-0,123	0,285
Cleanliness	0,024	0,831

Table 56: Public Space, Nuisance & Cleanliness

As seen in most of the tests on the actual stay in public space, the variables in this very case do not have a relationship with staying in public space (Sig. 0,285 & 0,831 > 0,05). In total, 56,6% of the respondents think the area is clean enough and a large majority of 73,8% does experience nuisance. These variables have also been tested on general appreciation of the neighbourhood (independent variable, scale level) using logistic regression analysis. In that case, there is a relationship between cleanliness (dependent variable in which yes =1 and no = 2) and general appreciation (Sig. 0,005 < 0,05), which says, the higher the general appreciation score, the higher the odds that one qualifies the TKWM area as clean. Also, there is a relationship between nuisance (dependent variable in which yes = 1 and no = 1) and the general appreciation (Sig. 0,002 < 0,05), which says, the higher the general appreciation score, the bigger the chance that the respondent does not experience any nuisance. The Hosmer-Lemeshow test shows us that both models fit the data (Sig. 0,767 & 0,136 > 0,05). Also, when running tests on the quality of the public green space, instead of staying in public space, there is a relationship with nuisance (Sig. 0,027 < 0,05) and cleanliness (Sig. 0,002 < 0,05). Out of this, we can conclude that the degree of nuisance and cleanliness has an influence on the rating of both the neighbourhood in general and the public (green) space. However, this relationship does not interfere in the choice on its own whether or not to enter the outdoor space of the TKWM project area.

Moving on to the indicator “visual perception and scenic quality”, the satisfaction with the greenery (In which yes = 1 and no = 2) and infrastructure (corresponding survey question: are you satisfied with the appearance of the roads, bike lanes and pathways in the area? In which yes = 1 and no = 2) have been tested alongside the willingness to stay in public space (in which yes = 1 and no = 2). As these categories are all of a dichotomous nature (yes/no questions), Pearson’s r tests have been used:

<u>Staying in Public Space</u>	Value	Sig.
Quality Greenery	0,016	0,888
Quality Infrastructure	0,000	1,000

Table 57: Public Space, Quality Greenery & Infrastructure

As shown in the above table, there is no such thing as a relationship between any of the variables (Sig. 0,888 & 1,000 > 0,05). To complete the picture, also these two variables have been measured alongside the general appreciation mark (independent variable, scale level), using logistic regression analysis.

<u>Not Pleased with the Greenery</u>	Exp(B)	Sig.
General Appreciation	0,257	0,000

Not Pleased with the Infrastructure	Exp(B)	Sig.
General Appreciation	0,608	0,045

Table 58: General Appreciation, Quality Greenery & Infrastructure

This analysis shows a somewhat surprising result. The degree of satisfaction with the greenery correlating with the general appreciation is pretty obvious (Sig. 0,000 < 0,05), but this time, also a relationship exists between infrastructure and the general appreciation of the neighbourhood (Sig. 0,045 < 0,05). This is the first time in this research that a correlation is found in which the infrastructure is included. This fact questions the legitimacy of including infrastructure in the operationalization of public space as done in this research. The correlation means in this very case, the better the general appreciation mark, the higher the odds (Exp(B)) that this respondent is satisfied with the current infrastructural situation in the TKWM project-area. In total, 71,4% of the respondents is satisfied with the greenery. 68,2% is satisfied with the infrastructure. The Hosmer-Lemeshow test shows us that both models fit the data (Sig. 0,233 & 0,588 > 0,05).

These figures are supplemented with a few open questions, namely:

- If relevant: What kind of nuisance do you experience?
- If relevant: In what way is the TKWM-area polluted?
- If relevant: What should change in terms of the greenery?
- If relevant: What should change in terms of the infrastructure?

The answers to the first two questions are displayed in the following table:

Nuisance	Frequency	Percentage	Pollution	Frequency	Percentage
1. Loiterers	50	40,0%	1. Litter	32	54,2%
2. Noise Disturbance	39	31,2%	2. Drug Waste	11	18,6%
3. Vandalism	22	17,6%	3. Dog Excrements	9	15,3%
4. Prohibited Activities	11	8,8%	4. Dangerous Materials	7	11,9%
5. Confused/Aggressive People	3	2,4%	Total All Responses	59	100%
Total All Responses	125	100%			

Table 59: Nuisance & Pollution

The table on the left-hand side shows a picture that we have seen earlier on in the analysis: the prominent role of loiterers in the open questions. This experienced nuisance is also named as most important cause of unsafe and unwelcome feelings, barriers for staying in public place and one of the major drawbacks of the neighbourhood in general. Also plenty of the other nuisance and pollution issues (such as noise disturbance, litter, vandalism, drug waste & dangerous materials) are possible consequences of loitering. The answers to the last two questions are shown in the following table:

Modifications Greenery	Frequency	Percentage	Modifications Infra	Frequency	Percentage
1. More Greenery	16	66,7%	1. Traffic Safety	9	34,6%
2. More Maintenance	3	12,5%	2. More Maintenance	7	26,9%
3. A Park	3	12,5%	3. More Pathways	4	15,4%
4. Less Greenery	1	4,2%	4. Difficult to Pass	3	11,5%
5. Similar as the Surroundings	1	4,2%	5. Blue Zones (Parking)	1	3,8%
Total All Responses	24	100%	6. Better Curbs	1	3,8%
			7. More Spacious	1	3,8%
			Total All Responses	26	100%

Table 60: Needed Modifications to the Greenery & Infrastructure

In terms of greenery, almost all of the recorded answers are in favor of more greenery/maintenance. Just one respondent wants less green and one respondent says it has to be more in line with the surroundings. In terms of infrastructure, two discourses can be distinguished: it has to be better is the strongest discourse (traffic safety, more maintenance, difficult to pass, better curbs, more spacious). But also, the pathways should be extended is named 4 times (15,4%), which is in line with the high number of people who use the area for biking and walking.

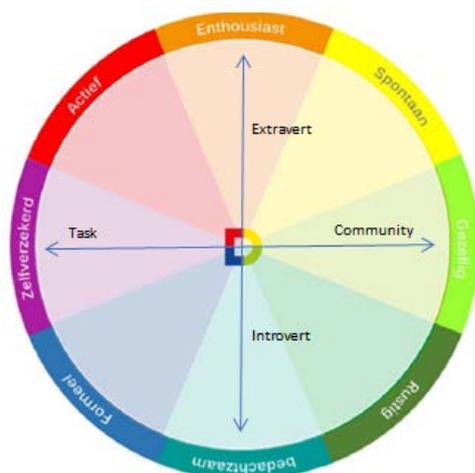


Figure 25: DISC Model

The last item to further elaborate on is the DISC model and its person types. In this paragraph, a lot of different topics are discussed: nuisance, cleanliness, quality of the greenery and quality of the infrastructure. The last two topics have been dealt with already in other paragraphs. Thus, let us have a closer look at the first two. In general, more than half of the respondents thinks that the area is clean enough (53,3%). However, things get way more negative when looking at nuisance: 74,6% of the respondents experiences nuisance of some kind in the TKWM-area. Nuisance is the biggest problem for the thoughtful and introvert aqua

types. 88,9% of this group does experience nuisance. The decisive and task-oriented purple types are the counterparts with only 59,1% of the group experiencing nuisance. When talking of cleanliness, the most negative group is the community-oriented lime group. 61,5% does not qualify the area as clean. The most positive group is the formal blue person type. 25% of that group thinks it should be cleaner.

7. Conclusion

7.1 Answering the Research Questions

This chapter will provide the answers on the research questions formulated beforehand. The main question reads as follows:

How do residents of different socio-economic backgrounds of the project-areas “TKWM” and “Wijchen-Zuid” experience their local public space and how does this affect their perceptions of quality of life?

This main question is answered by means of four sub-questions. In sub-question 1, the following question is brought forward: *what are the spatial characteristics of public spaces in both areas and what was the intended purpose of these spaces by the municipality and project designers?* For the TKWM-area, the market square has been examined. In broad terms, this public space can be characterized as a high quality area, mainly used for staying and moving. A clear dichotomy exists between the edges of the square (mainly for staying) and the open space itself (mainly for moving). The intended purpose by the municipality says: a compact and comfortable central area which expresses a traditional craft atmosphere. This is visible in the design: lanes of plane trees accentuating the demarcation of the square, a well-passable surface, vivid façade combinations and references to the history of the square and the municipality itself. The characterization as “area to stay” fits in this image: lingering on the “terrasjes” or enjoying the overview. However, the intensity and directions of the flows of movement, the allowing of (motorized) vehicles and the accompanying presence of parked vehicles and bicycles show an important role of the square in the inner-city infrastructure, for both passers-by as for suppliers, but this causes some friction with the characterization of the square by the municipality. The general characterization of public space in the project area by the local residents is moderately positive: 71,4% is satisfied with the public greenery, 66,7% is satisfied with the infrastructure and 56,5% thinks the area is generally clean enough. When looking at the cluster of public space examined in Wijchen-Zuid, it can be characterized as mediocre, mainly used for passing-by. The appearance is qualified as incoherent, introvert and cluttered by the municipality, who state that it has to be cleaner, greener and safer. The bottlenecks in the infrastructure cause confusion and unsafe situations. The character of this place is also determined by patterns of use by the local residents, out of which a demonstrable role of this cluster of public space in the daily lives of these people can be presumed. Based on the characterization by the respondents, the public space in Wijchen-Zuid is also characterized as moderate: 62.8% is satisfied with the greenery, 56,1% is satisfied

with the infrastructure and 53,7% thinks the district is generally clean enough. Positive outlier: 84,4% is not aware of any vandalism/demolitions in the district.

The second sub-question is: *what is the perception and experience of public space in both areas on a social level (health, personal & community development, security and services) by the concerned local residents?* In the TKWM-area, public space is popular: 96,4% of the respondents like to stay in public space. In terms of health, a large majority (89,3%) thinks the outdoor space is inviting to exercise and 67% experiences an emotion when walking through the area. Apart from a few irritations, these emotions are predominantly positive. "Walking" accounts for more than half of the reasons why to stay in public space and why the public space is qualified as inviting. In terms of personal development, 73,8% of the respondents use the area for recreational purposes. Therefore, not a lot is missing concerning recreation. From the 12 respondents who miss something, 6 are missing public space related objects. In terms of community development, only 23,5% wants to meet people in the public area. For this component, a community center is way more important than public space. It is named as most favorite location for meeting other people and it is the most missed activity/recreational possibility in the area. In terms of security, loiterers are a notable trend in the area. More than half of the people who feel unsafe (89 reasons in total) are afraid of these groups. Loiterers are also most named as cause for unwelcome feelings, barriers for staying in public space and drawbacks of the area in general; a concern. In terms of services, the public space related theme, the parking lot, is qualified positive. Only 2,7% think the lots are of a bad quality. Furthermore, the community center is named once again (this time in 23 of 30 responses) as missing service in the area. In the Wijchen-Zuid case, public space is also popular: 87,7% likes to stay in public space. In terms of health, 75,2% qualifies the outdoor space as inviting to exercise. In more than half of the occasions, the lake area and walking are the causes for this inviting feeling. However, the degree of sportsmanship is not notably high in Wijchen-Zuid. More than half of the respondents is experiencing an emotion when walking through the district. Out of this group, more than half is experiencing a negative emotion. In terms of personal development, 73,6% of the people are satisfied with the possibilities to recreate. The missing recreational activities are only in 16,5% related to public space; a minor role. For community development, the outdoor space is the most named location where people want to meet each other (26,4% of the total). The activities which are missing are in 44,1% neighbourhood activities. In terms of security, 40% is aware of unsafe spots. This is a lot less in comparison to the TKWM area (54,9%). Again, the loiterers are the main cause for unsafe feelings (38,3% of the total). almost 90% of all respondents are not aware of supervision in the district, out of which 36,7% specifically expresses the need for more supervision. In terms of services, the public space related parking lots are qualified "okay" with a 6,75 on a scale of 1-10. There are no public space related services missing by the respondents.

The third sub-question is: *how are perceived public spaces linked to quality of life of these residents?*

In the TKWM-area, the linkages which have been found are on a general level: the higher the general appreciation, the higher the qualification of the outdoor space as inviting (health). The higher the general appreciation, the bigger the chance of not knowing unsafe spots (security) and the people who like the area do have a bigger chance to like the greenery and the parking lots as well (services). For the personal and community development dimensions, no relationships are present in this study. Also, significant differences between the person types in any of the parts are not present. Still, an indication is interesting: the formal blue group is found as positive outlier in most tests in the TKWM-area: they give the highest grade for the general appreciation, challenging outdoor space, safety experience, satisfaction with the greenery, satisfaction with housing, recreation possibilities, quality of the parking lots and cleanliness. The negative outlier is not as unanimous, but the active and dynamic red types and the thoughtful and respectful aqua group are found back at the bottom of the list most often. In Wijchen-Zuid, significant linkages between public space and quality of life are regular. The most important one: the more satisfied the people are with the neighbourhood, the higher the chance that they stay in public space. Especially the community-oriented person types like to stay in public space. When looking at specific parts: people who like the greenery, the built environment, qualify the district as clean and do not experience nuisance have a bigger chance to stay in public space. Thus, the link between staying in public space and the qualification of the district both as a whole as looking at specific parts stands out. The active red types, cozy lime types and spontaneous yellow types do appreciate Wijchen-Zuid significantly more than the formal blue types (which were the most satisfied people in the TKWM area). When looking at the specific dimensions of quality of life: for “health” applies, the degree of sportsmanship does positively correlate with the degree in which the outdoor space is challenging. Furthermore, when the neighbourhood has a big role in solving personal problems, the chance to stay in public space is bigger. Since this role of the neighbourhood is not notably big in Wijchen-Zuid, isolation of people in need could be a risk. According to the study of the person types, the active and dynamic red group is the most vulnerable group here. The extravert orange group gives the highest ratings for the health dimension. For “security” applies, people who feel unsafe at night have a bigger chance to avoid public space; a confirmation as seen in the literature (Mehta, 2014). The active and dynamic red types feel most safe, opposing the introvert aqua/blue person types (significant difference). The income of people (economic security) does not matter in the appreciation of the district or staying in public space. For personal development, people not satisfied with possibilities to recreate are less likely to stay in public space and they also tend to have a lower general appreciation of Wijchen-Zuid; a concern. The community-oriented lime group is least satisfied with the recreational opportunities. When speaking of community development, no significant relationships can be made in Wijchen-Zuid, which is quite remarkable taking the literature in account

(Oosterhuis, 2014). For services applies, the more satisfied people are with the parking lots, the higher the chance to stay in public space. Same as with the general appreciation and safety scores, the active reds are the most enthusiastic and the formal blues the least.

The fourth sub-question is: *What are implications for (re)development of these spaces for the municipality and project developers?* When looking at the TKWM-area, this research has shown that indeed this area can be characterized as a high quality and well appreciated area entailing popular public space. Still, some remarks can be done. Loiterers seem to be a serious problem in the TKWM area. Especially “the Europaplein”, “the Bolster” and the parking lot beneath “the Oostflank” are named as problem areas. If this problem would be tackled, this will have a positive influence on the safety experience and with that the general appreciation of the area. Furthermore, public space will be seen as more challenging to exercise and more welcoming. Furthermore, the traffic safety is a problem which is named as major drawback (especially “the Meerdreef” is stated as unsafe). Lastly, around 1 in 4 of the total respondents wants more greenery. Judging by the high numbers of people walking, cycling and enjoying the greenery as it is now, there is more to be gained here. Especially the lake area is popular, although the shore is not even fully developed. For the Wijchen-Zuid case, the public space is of a moderate quality, but it seems to be not as negative as outlined in the structure sketch by the municipality (Gemeente Wijchen, 2017). The same applies to the general appreciation, with a decent 7,21 as mean mark (on a 1-10 scale) . Of course, there are some implications to take into account. Maintenance is a big issue. Garbage, maintenance of the greenery and the appearance of the district are among the top-5 biggest annoyances in Wijchen-Zuid. Superficial problems, which can be relatively ease overcome and which are a starting point in solving the more deeply rooted issue: the negative image of the district. Furthermore, the degree in which the outdoor space is challenging to exercise and welcoming is something to keep an eye on. The local residents are not notably sporty and people with personal problems tend to avoid the outdoor space. This is a risky development which has to be closely monitored, since socially vulnerable residents of Wijchen-Zuid could become isolated. Lastly, also in Wijchen-Zuid, the traffic safety is a problem. Especially the narrow streets and reckless drivers are named as problems. Related to this, the parking lots are stated as biggest annoyance in the district.

7.2 Discussion

There are some comments that have to be made regarding the limitations of this research. To start, the “open” operationalization of concepts in order to ensure an all-encompassing picture of quality of life and public space, and the choice to research two different projects using four different methods was at the expense of the depth of the research. Both for the concepts as for the methods, when this

research had limited itself to less, more information could have been collected for each aspect and the methods could have been used more efficient and complete. For instance: the observations have been carried out only in the morning and in the afternoon. A focus on this method would have led to observations at night also, probably adding an extra dimension to the results.

Furthermore, other methodological choices did cause some limitations. The case of Wijchen-Zuid has been limited to only four of the fifteen neighbourhoods it consists of. Since these four neighbourhoods are an uniformity in contrast to the whole district, the results presented in this paper are only applicable on these four selected neighbourhoods in the direct vicinity of the district's center area. Since this large-scale project is meant for all of Wijchen-Zuid, it would have been interesting to involve the whole district in this research.

Next, the usage of the DISC model as operationalization for "socio-economic backgrounds" does bring some limitations. Straightforward personal characteristics such as age, gender and origin are not discussed, but would have been interesting as well. Also, it can be questioned if this model out of behavioral economics is the most applicable model to make a complex reality such as diversity manageable for this very research. Presumably, other models closer linked to urban geography instead of economics/communication would have resulted in more geography-oriented information. However, the validity and reliability of the model are beyond doubt.

The case of Wijchen-Zuid has shown that the link between public space and almost every dimension of quality of life is present, but way more research is needed to qualify and quantify the link between public space and quality of life in different settings and for different sorts of public space in order to pinpoint what really works and what is needed on what kind of location. The conceptual framework as presented in this research guarantees an all-encompassing set of dimensions and indicators to take into account by doing this. Specific and implementable guidelines will ease justification processes for (local) governments regarding developments in public space on the basis of quality of life drastically. Comprehensiveness in the approach of both quality of life and public space is absolutely required in order to avoid crucial aspects to be missed. As stated in an article by Helen Beck (2009) which was the motivation for doing this research: things which cannot be measured easily are overlooked and underestimated the first.

8. References

- Andersson, C. (2016). Public Space and the New Urban Agenda. *The Journal of Public Space*, 5-10.
- Atkinson, R. (2003). Domestication by Cappuccino or a Revenge on Urban Space? Control and Empowerment in the Management of Public Spaces. *Urban Studies*, 1829-1843.
- Barton, J., & Pretty, J. (2010). What is the Best Dose of Nature and Green Exercise for Improving Mental Health? A Multi-study Analysis. *Environmental Science and Technology*, 3947-3955.
- Bassand, M., & Güller, P. (2001). *Vivre et Créer l'Espace Public*. Lausanne: Presses Polytechniques.
- Beck, H. (2009). Linking the quality of public spaces to quality of life. *Journal of Place Management and Development*, 240-248.
- Beck, U. (1992). *Risk Society: Towards a New Modernity*. London: SAGE Publications.
- Beng-Huat, C., & Edwards, N. (1992). Public Space: Design, Use and Management. In C. Beng-Huat, & N. Edwards, *Public Space: Design, Use and Management* (pp. 1-10). Singapore: Singapore University Press.
- Bonenberg, W. (2015). Public Space in the Residential Areas: The Method of Socio-Spatial Analysis. *Procedia Manufacturing*, 1720-1727.
- Boyer, C. (1994). *The City of Collective Memory: Its Historical Imagery and Architectural Entertainments*. Cambridge, MA: MIT Press.
- Boyer, M. (1993). The City of Illusion: New York's Public Space. In P. Knox, *The Restless Urban Landscape* (pp. 111-126). New Jersey: Prentice Hall.
- Bryman, A. (2008). *Social Research Methods*. Oxford: Oxford University.
- Burns, A., & Bush, R. (2000). *Marketing Research*. Cambridge: Pearson Publishing Ltd.
- CABE (Commission for Architecture and the Built environment). (2007). *Living with Risk: Promoting Better Public Space Design*. London: CABE.
- Camagni, R., Capello, R., & Nijkamp, P. (1998). Towards Sustainable City Policy: An Economy-Environment Technology Nexus. *Ecological Economics*, 103-118.
- Carmona, M. (2015). Re-theorising Contemporary Public Space: A New Narrative and a New Normative. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 373-405.
- Carmona, M., Heath, T., Tiesdell, T., & Oc, T. (2003). *Public Places, Urban Spaces: The Dimensions of Urban Design*. Oxford: Architectural Press.
- Carr, S. (1992). The Value of Public Space. In S. Carr, M. Francis, L. Rivlin, & A. Stone, *Public Space* (pp. 3-21). New York: Cambridge University Press.
- CBS. (2017). *Kerncijfers Wijken en Buurten 2017*. Den Haag: Centraal Bureau voor de Statistiek.

- Cilliers, E., Timmermans, W., Goorbergh, F. van, & Slijkhuis, J. (2015). The Story Behind the Place: Creating Urban Space That Enhance Quality of Life. *Applied Research Quality Life*, 589-598.
- Coalter, F., Long, J., & Duffield, B. (1988). *Recreational Welfare. The Rationale for Public Leisure Policy*. Aldershot: Avebury.
- Creswell, J. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks: SAGE Publications.
- Cutter, S. (1985). *Rating Places: A Geographer's View on Quality of Life*. Washington: American Association of Geographers.
- Devereux, M., & Littlefield, D. (2017). *A Literature Review on the Privatisation of Public Space*. Bristol: University of the West of England: Department of Architecture and the Built Environment.
- DISCvision. (n.d.). *Wat is DISC?* Woerden: DISCvision.
- Fanghanel, A. (2016). The Trouble with Safety: Fear of Crime, Pollution and Subjectification in Public Space. *Theoretical Criminology*, 57-74.
- Fielding, M. (2009). Public Space and Educational Leadership. *Educational Management Administration & Leadership*, 497-521.
- Foster, J., Barkus, E., & Yavorsky, C. (2006). *Understanding and Using Advanced Statistics*. London: SAGE Publications.
- García-Doménech, S. (2015). Urban Aesthetics and Social Function of Actual Public Space: A Desirable Balance. *Theoretical and Empirical Researches in Urban Management*, 54-65.
- Gehl, J. (1996). *Life Between Buildings: Using Public Space*. Hørsholm: The Danish Architectural Press.
- Gemeente Wijchen. (2005). *Kaderbrief Centrum Wijchen 2005*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2008). *Structuurschets: Herinrichting Centrum Wijchen - 6 maart 2008*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2012). *Centrumvisie Wijchen 2012: De Wijchense Verleiding*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2015). *Speelruimteplan!: Uitvoeringsplan speelruimte 2015-2024*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2016). *Actualisatie Hondenuitlaatbeleid*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2016). *Gebiedsperspectief Centrum Wijchen 2030*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2017). *Hart van Zuid Wijchen: Definitief Verkenningverslag*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2017). *Programmabegroting 2018*. Wijchen: Gemeente Wijchen.
- Gemeente Wijchen. (2017). *Tussen Kasteel en Wijchens Meer: Marktverkenning Herontwikkeling Gemeentehuis E.O.* Wijchen: Gemeente Wijchen.
- Gold, R. (1958). Roles in Sociological Field Observations. *Social Forces*, 217-223.

- Goldberger, P. (1996). The rise of the private city. In J. Vittullo Martin, *Breaking Away: The Future of Cities* (pp. 101-138). New York: The Twentieth Century Fund.
- Griffiths, M., & Ross, H. (2008). Public Space, Participation and Expressive Arts. In B. Lingard, J. Nixon, & S. Ranson, *Transforming Learning in Schools and Communities: The Remaking of Education for a Cosmopolitan Society* (pp. 85-97). London: Continuum.
- Grodach, C. (2009). Art Spaces, Public Space and the link to community development. *Community Development Journal*, 474-493.
- Habermas, J. (1992). *L'espace Public: Archéologie de la Publicité comme Dimension Constitutive de la Société Bourgeoise*. Paris: Payot.
- Hall, S. (1993). Culture, Community, Nation. *Cultural Studies*, 349-363.
- Henrard, C. (2013). *Emosan: Emotie en Neurocommunicatie*. Antwerpen: Garant Uitgevers .
- Hou, J. (2010). (Not) Your Everyday Public Space. In J. Hou, *Insurgent Public Space: Guerilla Urbanism and the Remaking of Contemporary Cities* (pp. 1-17). New York: Routledge.
- IBM Knowledge Center. (n.d.). *Tests of Model Fit*. Retrieved from IBM Knowledge Center: https://www.ibm.com/support/knowledgecenter/en/SSLVMB_23.0.0/spss/tutorials/log_loa_n_fit.html
- Johnson, A., & Glover, T. (2013). Understanding Urban Public Space in a Leisure Context. *Leisure Sciences*, 190-197.
- Johnson, R., Onwuegbuzie, A., & Turner, L. (2007). Towards a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 112-133.
- Jorgensen, D. (1989). *Participant Observation*. Thousand Oaks: SAGE Publications.
- Kamp, I. van, Leidelmeijer, K., Marsman, G., & Hollander, A. de (2003). Urban Environmental Quality and Human Well-Being Towards a Conceptual Framework and Demarcation of Concepts; A Literature Study. *Landscape and Urban Planning*, 5-18.
- Kish, L. (1965). *Survey Sampling*. New York: Wiley.
- Korzilius, H. (2000). *De Kern van Survey-onderzoek*. Assen: Van Gorcum & Comp.
- Krier, R. (1979). *Urban Space*. New York: Rizzoli International Publications.
- Lloyd, K., & Auld, C. (2003). Leisure, Public Space and Quality of Life in the Urban Environment. *Urban Policy and Research*, 339-356.
- Low, S., Taplin, D., & Scheld, S. (2005). The Cultural Life of Large Urban Spaces. In S. Low, D. Taplin, & S. Scheld, *Public Space & Cultural Diversity* (pp. 1-18). Austin: University of Texas Press.
- Machielse, W. (2015). *Perceived Safety in Public Spaces: A Quantitative Investigation of the Spatial and Social Influences on Safety Perception among Young Adults in Stockholm*. Stockholm: Stockholm University.

- Malone, K. (1999). Growing Up in Cities as a Model of Participatory Planning and 'Place-Making' with Young People. *Youth Studies Australia* , 17- 23.
- Mandeli, K. (2011). *Public Spaces in a Contemporary Urban Environment: Multi-dimensional Urban Design Approach for Saudi Cities*. Newcastle upon Tyne: University of Newcastle upon Tyne .
- Marston, W. (1928). *Emotions of Normal People*. Oxon: Routledge, Trench, Trubner & Co., Ltd.
- McKechnie, L. (2008). Unstructured Observation. In L. Given, *The SAGE Encyclopedia of Qualitative Research Methods* (p. 908). Thousand Oaks: SAGE Publications.
- McMillan, W., & Chavis, D. (1986). Sense of Community: A Definition and Theory. *Journal of Community Psychology*, 6-23.
- Mehta, V. (2014). Evaluating Public Space. *Journal of Urban Design*, 53-88.
- Mitchell, G. (2000). Indicators as tools to guide progress on the sustainable development pathway. In R. Lawrence, *Sustaining Human Settlement: A Challenge for the New Millennium* (pp. 55-104). Gateshead: The Urban International Press.
- Morse, J. (1991). Approaches to Qualitative-Quantitative Methodological Triangulation. *Nursing Research*, 120-123.
- Ogden, C., Carroll, M., & Flegal, K. (2008). High Body Mass Index for Age among US Children and Adolescents, 2003-2006. *Journal of the American Medical Association*, 2401-2405.
- Oosterhuis, G. (2014). *Making Public Space More Public: The Use of Differentiated Maintenance in the Public Space of Nijmegen*. Nijmegen: Radboud Universiteit.
- Páramo, P. (2017). The City as an Environment for Urban Experiences and the Learning of Cultural Practices. In G. Fleury-Bahi, E. Pol, & O. Navarro, *Handbook of Environmental Psychology and Quality of Life Research* (pp. 275-290). Cham: Springer International Publishing.
- Parr, H. (1997). Mental Health, Public Space, and the City: Questions of Individual and Collective Access. *Environment and Planning D: Society and Space*, 435-454.
- Plano Clark, V., & Ivankova, N. (2016). Why Use Mixed Methods Research? Identifying Rationales for Mixing Methods. In V. Plano Clark, & N. Ivankova, *Mixed Methods Research: A Guide to the Field* (pp. 79-104). Thousand Oaks: SAGE Publications.
- Poon, L. (2017, March 31). *To Build a Great Public Space, You Need More Than Good Design*. Retrieved from CityLab: <https://www.citylab.com/design/2017/03/public-space-projects-kounkuey-design-initiative/521346/>
- Price, L. (2015). *DISC Instrument Validation Study: Technical Report*. San Marcos: Texas State University.
- Proshansky, H., & Fabian, A. (1986). Psychological Aspects of the Quality of Urban Life. In D. Frick, *The Quality of Urban Life: Social, Psychological, and Physical Conditions* (pp. 19-30). Berlin: Walter de Gruyter & Co.

- Public Health Service. (1996). Surgeon General's Report on Physical Activity and Health. *Journal of the American Medical Association*, 522.
- Rozin, P., & Royzman, E. (2001). Negativity Bias, Negativity Dominance, and Contagion. *Personality and Social Psychology Review*, 296-320.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students*. Harlow: Pearson Education Limited.
- Shafer, C., Lee, B., & Turner, S. (2000). A Tale of Three Greenway Trails: User Perceptions related to Quality of Life. *Landscape and Urban Planning*, 163-178.
- Staeheli, L., & Mitchell, D. (2007). Locating the Public in Research and Practice. *Progress in Human Geography*, 792-811.
- Stanca, L. (2015). Measuring Urban Quality of Life: A Life Satisfaction Approach. In A. Michelangeli, *Quality of Life in Cities: Equity, Sustainable Development and Happiness from a Policy Perspective* (pp. 66-90). London: Routledge.
- Szalai, A. (1980). The Meaning of Comparative Research on the Quality of Life. In A. Szalai, & F. Andrews, *The Quality of Life* (pp. 7-24). London: Sage Publications.
- Talis. (2016, July 12). *Zuiderhoek: Vernieuwing Flats in Wijchen* . Retrieved from Housing Corporation Talis: <https://www.talis.nl/in-de-wijk/in-de-wijk-tonen-op-pagina/zuiderhoek-vernieuwing-flats-in-wijchen-.htm>
- Tilley, J., & Potter, G. (2014). *Social Exclusion and Public Space*. Retrieved from ECU Policy Studies: <http://plsonline.eku.edu/insidelook/social-exclusion-and-public-space>
- Vennix, J. (2011). *Theorie en Praktijk van Empirisch Onderzoek*. Essex: Pearson Custom Publishing.
- Verschuren, P., & Doorewaard, H. (2010). *Designing a Research Project*. The Hague: Eleven International Publishing.
- Waard, H. de, & Rodenburg, K. (2007). *Burger en Politiek: Participatie als Brug over de Vertrouwenskloof*. Antwerp: Garant.
- Warner, R. (2008). *Applied Statistics: From Bivariate Through Multivariate Techniques*. Thousand Oaks: SAGE Publications.
- Wolch, J., Byrne, J., & Newell, J. (2014). Urban Green Space, Public Health, and Environmental Justice: The Challenge of Making Cities 'Just Green Enough'. *Landscape and Urban Planning*, 234-244.
- Yin, R. (1981). The Case Study as a Serious Research Strategy. *Knowledge: Creation, Diffusion, Utilization*, 97-114.
- Yin, R. (1984). *Case Study Research: Design and Methods*. Thousand Oaks: SAGE Publications.
- Zhang, M. (2016). *Quality Urban Public Space for Quality of Life*. Washington: The World Bank.

Annex 1: Survey Wijchen-Zuid

Welkom bij de vragenlijst over 'Hart van Zuid'. Deze vragenlijst gaat over de buurten in Wijchen-Zuid, namelijk: *Diepvoorde, Huissteden, Hoogmeer, De Ververt, Abersland, Elsland, Zesakkers, Zuiderpoort, De Geer, Balgoijseweg, Kronenland, Oudelaan, Sluiskamp, Zevendreef, De Weertjes en De Grippen*.

1. Hoelang woont u al in Wijchen-Zuid?

Als u het niet precies weet, wilt u een zo goed mogelijke schatting maken.

- 0 - 5 jaar
- 5 - 10 jaar
- 10 jaar of meer

2. Hoe tevreden bent u met Wijchen-Zuid als uw woonplek?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 **Helemaal wel**

De komende vragen gaan allemaal over uw buurt in Wijchen-Zuid (zie de inleiding voor de opsomming van buurten).

3. Welke activiteiten onderneemt u in uw buurt?

Denk hierbij aan ontspannen, anderen ontmoeten, winkelen etc.

4. Wat bevalt goed aan uw buurt?

5. Wat bevalt niet (zo) goed aan uw buurt?

Gezondheid

6. Beweegt/sport u regelmatig?

Zelden 1 2 3 4 5 6 7 8 9 10 **Dagelijks**

7. Nodigt uw buurt uit tot bewegen? *Ja / Nee*

Denk hierbij aan wandelen, fietsen, een blokje om, enz.

Waarom wel/niet? _____

8. Zijn er voldoende sportmogelijkheden in uw buurt? *Ja / Nee*

Zo nee, wat mist u? _____

9. Biedt uw buurt genoeg mogelijkheden om te ontspannen? *Ja / Nee*

Zo nee, wat mist u? _____

10. Zijn de mogelijkheden om te bewegen, sporten en ontspannen in uw buurt toegankelijk genoeg? *Ja / Nee*

Zo nee, waarom niet? _____

11. Verblijft u graag in de buitenlucht in uw buurt? Ja / Nee

Zo nee, waarom niet?

12. Kunt u met persoonlijke problemen terecht in uw buurt?

Denk hierbij aan zorgvoorzieningen, huisarts, sociaal wijkteam enz.

Helemaal niet 1 2 3 4 5 6 7 8 9 10 **Helemaal wel**

13. Als u door uw buurt loopt, roept dit een bepaald gevoel bij u op? Ja / Nee

Zo ja, wat merkt u dan?

Veiligheid

14. Voelt u zich overdag veilig in uw buurt?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 **Helemaal wel**

15. Voelt u zich 's avonds veilig in uw buurt?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 **Helemaal wel**

16. Is er zowel overdag als 's avonds voldoende toezicht aanwezig in uw buurt? Ja / Nee

Denk hierbij aan wijkbeheer, politie, etc.

Zo nee, wat mist u?

17. Zijn er bepaalde plekken/Is er een plek in uw buurt waar u zich niet veilig voelt? Ja / Nee

Zo ja, ga verder met vraag 18. Zo nee, ga verder met vraag 19.

18. Waarom voelt u zich niet veilig op een bepaalde plek/op bepaalde plekken?

Geef aan over welke plek(ken) het gaat:

- Te weinig verlichting _____
- Er wordt rondgehangen _____
- Er wordt drugs gebruikt/verhandeld _____
- Het is uit het zicht/afgelegen _____
- Anders, namelijk _____

19. Is er een plek/zijn er bepaalde plekken in uw buurt waar u zich niet welkom voelt?

Ja / Nee

Zo ja, waar en waarom?

Onderwijs

20. Is er behoefte aan meer of ander onderwijs in uw buurt, naast het aanwezige basisonderwijs?

Ja / Nee

Zo ja, wat? _____

21. Naar welke basisschool gaat/gaan uw kind(eren)?

- 't Palet
- De Boskriek
- Anders, namelijk _____
- Niet van toepassing

Om welke reden is gekozen voor de aangegeven basisschool?

Betrokkenheid bij de buurt

22. Voelt u zich thuis in uw buurt?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 **Helemaal wel**

23. Hoe zou u het contact met buurtbewoners op dit moment omschrijven?

Te weinig 1 2 3 4 5 6 7 8 9 10 **meer dan genoeg**

24. Waar zou u anderen willen ontmoeten?

Meerdere antwoorden mogelijk:

- Wijkcentrum
- Sport/spelvereniging
- In de buitenlucht
- Anders, namelijk _____
- Winkelcentrum
- Horeca
- Tijdens buurtactiviteiten

25. Heeft u behoefte aan activiteiten in uw buurt die er nu nog niet zijn? Ja / Nee

Zo ja, Welke? _____

26. Bent u bereid zelf activiteiten te organiseren?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 **Helemaal wel**

27. Wilt u meer betrokken worden bij ontwikkelingen in uw buurt? Ja / Nee

Zo ja, op welke manier? Meerdere antwoorden mogelijk:

- Sociale media
- De Wegwijs
- Anders, namelijk _____
- Flyers
- Nieuwsbrief

28. Hoe denkt u dat mensen van buiten de buurt naar uw buurt kijken?

Negatief 1 2 3 4 5 6 7 8 9 10 **Positief**

Uitstraling

29. Bent u tevreden over het openbaar groen in uw buurt? Ja / Nee

Zo nee, wat moet er volgens u veranderen?

30. Bent u tevreden over de wegen, fietspaden en trottoirs in uw buurt?

Ja / Nee

Zo nee, wat moet er volgens u veranderen?

31. Bent u tevreden over de uitstraling van de bebouwing in uw buurt? Ja / Nee

Zo nee, wat moet er volgens u veranderen?

Overlast

32. Is uw buurt over het algemeen voldoende schoon? Ja / Nee

Zo nee, ga door naar vraag 33. Zo ja, ga door naar vraag 34.

33. Op welke manier is een bepaalde plek/zijn bepaalde plekken rommelig of vervuild?

Geef aan over welke plek(ken) het gaat:

- Zwerfafval*_____
- Hondenpoep*_____
- Gevaarlijk materiaal (glas, naalden etc.)*_____
- Drugsafval*_____
- Anders, namelijk*_____

34. Zijn er beschadigingen/vernielingen in uw buurt? Ja / Nee

Zo ja, op welke plek(ken) en wat is er beschadigd/verniemd?

35. Heeft u te maken met overlast in uw buurt? Ja / Nee

Zo ja, geef aan over welke plek(ken) het gaat:

- Geluidsoverlast*_____
- Vandalisme*_____
- Hangjeugd*_____
- Verwarde/agressieve mensen*_____
- Verboden activiteiten, namelijk*_____
- Anders, namelijk*_____

Voorzieningen

36. Bent u tevreden over de parkeervoorzieningen in uw buurt?

<i>Slechte kwaliteit</i>	1	2	3	4	5	6	7	8	9	10	<i>Goede kwaliteit</i>
<i>Te weinig</i>	1	2	3	4	5	6	7	8	9	10	<i>Te veel</i>

Genoeg

37. Bent u tevreden over het winkelcentrum Zuiderpoort? Ja / Nee

Zo nee, wat moet er veranderen?

38. Mist u nog bepaalde winkels in het winkelcentrum Zuiderpoort? Ja / Nee

Zo ja, welke? _____

39. Bent u tevreden over het wijkcentrum? Ja / Nee

Zo nee, wat moet er veranderen?

40. Mist u voorzieningen (zie onderstaande voorbeelden) in uw buurt? Ja / Nee

Zo ja, welke? Meerdere antwoorden mogelijk:

- Zorginstelling, namelijk _____
- (Gezamenlijke) kantorenruimte
- Horeca, namelijk _____
- Kinderopvang
- Ontmoetingsplek, namelijk voor _____
- Anders, namelijk _____

Bereikbaarheid

41. Kunt u de buurt makkelijk in en uit via de Zuiderdreef?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 Helemaal wel

42. Kunt u zich makkelijk verplaatsen door uw buurt? Zowel te voet, met de auto, met de fiets, als met het openbaar vervoer. Ja / Nee

Zo nee, wat moet er veranderen?

43. Zijn de wegen, fietspaden en trottoirs in uw buurt veilig genoeg? Ja / Nee

Zo nee, wat moet er veranderen?

Om de antwoorden goed te kunnen begrijpen willen wij u graag iets beter leren kennen. Daarover gaan de volgende vragen:

44a. U ziet hier een groepje met acht woorden. Wilt u aangeven welk woord het beste bij u past, en welk woord het minst goed bij u past?

Elk woordje heeft een nummer dat u hieronder kunt invullen.

1	Actief	2	Gemoedelijk	3	Bedachtzaam	4	Rustig
5	Bescheiden	6	Besluitvaardig	7	Informeel	8	Hulpvaardig

Nummer

a. Welk woord past **het beste** bij u? _____

b. Welk woord past **het minst goed** bij u? _____

44b. Welke van de volgende woorden past *het beste* bij u en welk woord past *het minst goed*? Wilt u weer de nummers van uw keuze invullen.

- | | | | | | | | |
|----------|--------------------|----------|---------------------|----------|-----------------------|----------|---------------------|
| 1 | <i>Geduldig</i> | 2 | <i>Voorzichtig</i> | 3 | <i>Zelfverzekerd.</i> | 4 | <i>Spontaan</i> |
| 5 | <i>Enthousiast</i> | 6 | <i>Weloverwogen</i> | 7 | <i>Formeel</i> | 8 | <i>Avontuurlijk</i> |

- Nummer*
- c. Welk woord past **het beste** bij u? _____
- d. Welk woord past **het minst goed** bij u? _____

44c. Welke keuzes maakt u bij de volgende woorden?

- | | | | | | | | |
|----------|--------------------|----------|-------------------|----------|-----------------|----------|---------------------|
| 1 | <i>Creatief</i> | 2 | <i>Gezellig</i> | 3 | <i>Kalm</i> | 4 | <i>Nauwkeurig</i> |
| 5 | <i>Evenwichtig</i> | 6 | <i>Zorgvuldig</i> | 7 | <i>Energiek</i> | 8 | <i>Optimistisch</i> |

- Nummer*
- e. Welk woord past **het beste** bij u? _____
- f. Welk woord past **het minst goed** bij u? _____

44d. Welke keuzes maakt u bij de volgende woorden?

- | | | | | | | | |
|----------|--------------------|----------|--------------------|----------|------------------|----------|-------------------|
| 1 | <i>Ongeduldig</i> | 2 | <i>Zachtaardig</i> | 3 | <i>Praktisch</i> | 4 | <i>Respectvol</i> |
| 5 | <i>Ondernemend</i> | 6 | <i>Stabiel</i> | 7 | <i>Correct</i> | 8 | <i>Joviaal</i> |

- Nummer*
- g. Welk woord past **het beste** bij u? _____
- h. Welk woord past **het minst goed** bij u? _____

Ten slotte

Wat is uw leeftijd?

- | | |
|-----------------------------|-----------------------------|
| <input type="radio"/> <18 | <input type="radio"/> 46-55 |
| <input type="radio"/> 18-25 | <input type="radio"/> 56-65 |
| <input type="radio"/> 26-35 | <input type="radio"/> 65+ |
| <input type="radio"/> 36-45 | |

Wat is uw geslacht? *Man / Vrouw*

Wat is uw postcode? *Bijvoorbeeld 1234 AB*

Hoe ziet uw huishouden eruit?

- Ik woon alleen
- Ik ben getrouwd of woon samen zonder kinderen
- Ik ben getrouwd of woon samen met kind(eren)
- Ik ben een alleenstaande ouder met kind(eren)

Wat was het totale inkomen van uw huishouden in 2017?

- Minder dan €20,000
- €20,000 - €50,000
- €50,000 en meer
- Geef ik liever geen antwoord op

Hartelijk dank voor uw medewerking!

Annex 2: Survey TKWM

1. Waarom woont u hier in Wijchen?

2. Voelt u zich verbonden met het gebied 'Tussen Kasteel en Wijchens Meer'?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 Helemaal wel

3. Voor welke doeleinden maakt u gebruik van het gebied?

4. Wat bevalt goed aan het gebied?

5. Wat bevalt niet goed aan het gebied?

6. Hoe beoordeelt u de huidige kwaliteit van het gebied?

Heel laag 1 2 3 4 5 6 7 8 9 10 Heel hoog
Gemiddeld

Gezondheid (fysiek en mentaal)

7. Nodigt het gebied uit tot bewegen? Ja / Nee

Waarom wel/niet? _____

8. Als u door het gebied loopt, roept dit een bepaalde emotie bij u op? Ja / Nee

Zo ja, wat merkt u dan?

Veiligheid

9. Voelt u zich bij daglicht veilig in het gebied?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 Helemaal wel

10. Voelt u zich in het donker veilig in het gebied?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 Helemaal wel

11. Is er een plek/zijn er bepaalde plekken in het gebied waar u zich geregeld niet veilig voelt? Ja / Nee

Zo ja, ga verder met vraag 12. Zo nee, ga verder met vraag 13.

12. Waarom voelt u zich geregeld niet veilig op een bepaalde plek/op bepaalde plekken?

Geef aan over welke plek(ken) het gaat:

- Te weinig verlichting_____
- Er wordt rondgehangen_____
- Er wordt drugs gebruikt/verhandeld_____
- Het is uit het zicht/afgelegen_____
- Anders, namelijk_____

13. Is er een plek/zijn er bepaalde plekken in het gebied waar u zich niet welkom voelt?

Ja / Nee

Zo ja, waar en waarom?

Persoonlijke ontwikkeling (ontspanning en onderwijs)

14. Zoekt u het gebied op om te ontspannen? Ja / Nee

Zo ja, ga verder met vraag 15. Zo nee, ga verder met vraag 16.

15. Biedt het gebied genoeg mogelijkheden om te ontspannen? Ja / Nee

Zo nee, wat mist u?_____

16. Verblijft u graag in de buitenlucht in het gebied? Ja / Nee

Zo ja, voor welke activiteiten? Zo nee, waarom niet?

Sociale betrokkenheid bij de buurt

17. Heeft u meer behoefte aan het ontmoeten van andere mensen in het gebied? Ja / Nee

Zo ja, ga verder met vraag 18. Zo nee, ga verder met vraag 19.

18. Waar zou u anderen willen ontmoeten?

Meerdere antwoorden mogelijk:

- Horeca
- In de buitenlucht
- Sport/spelvereniging
- Buurtcentrum
- Anders, namelijk_____

19. Heeft u behoefte aan activiteiten in het gebied? Ja / Nee

Zo ja, Welke?_____

20. Wilt u meer betrokken worden bij ontwikkelingen in het gebied? Ja / Nee

Zo ja, op welke manier? Meerdere antwoorden mogelijk:

- Sociale media
- De Wegwijs
- flyers
- Nieuwsbrief
- Anders, namelijk _____

21. Hoe denkt u dat anderen naar het gebied kijken?

Negatief 1 2 3 4 5 6 7 8 9 10 **Positief**

Uitstraling

22. Bent u tevreden met de huidige uitstraling van het gebied?

Helemaal niet 1 2 3 4 5 6 7 8 9 10 **Helemaal wel**

23. Bent u tevreden over het openbaar groen in het gebied? Ja / Nee

Zo nee, wat moet er volgens u veranderen?

24. Bent u tevreden over hoe de wegen/(fiets)paden eruit zien in het gebied? Ja / Nee

Zo nee, wat moet er volgens u veranderen?

25. Bent u tevreden over de verschillen (variatie) in woningen in het gebied? Ja / Nee

Zo nee, wat moet er volgens u veranderen?

Overlast

26. Is het gebied over het algemeen voldoende schoon? Ja / Nee

Zo nee, ga door naar vraag 27. Zo ja, ga door naar vraag 28.

27. Op welke manier is een bepaalde plek/zijn bepaalde plekken vervuild?

Geef aan over welke plek(ken) het gaat:

- Zwerfafval _____
- Hondenpoep _____
- Gevaarlijk materiaal (glas, naalden etc.) _____
- Drugsafval _____
- Anders, namelijk _____

28. Ervaart u andere overlast in het gebied? Ja / Nee

Zo ja, Geef aan over welke plek(ken) het gaat:

- Geluidsoverlast _____
- Vandalisme _____
- Hangjeugd _____

- Verwarde/agressieve personen _____
- Verboden activiteiten, namelijk _____
- Anders, namelijk _____

Voorzieningen

29. Bent u tevreden over de parkeervoorzieningen in het gebied?

Slechte kwaliteit	1	2	3	4	5	6	7	8	9	10	Goede kwaliteit
Te weinig	1	2	3	4	5	6	7	8	9	10	Te veel
Genoeg											

30. Mist u winkelaanbod in het gebied? Ja / Nee

Zo ja, welke? _____

31. Mist u bepaalde voorzieningen (zie onderstaande voorbeelden) in het gebied? Ja / Nee

Zo ja, welke? Meerdere antwoorden mogelijk:

- Zorginstelling, namelijk _____
- (Gezamenlijke) kantorenruimte
- Horeca, namelijk _____
- Kinderopvang
- Jongeren ontmoetingsplek
- Anders, namelijk _____

Ten slotte

Wat is uw leeftijd?

- | | |
|---|---|
| <ul style="list-style-type: none"> ○ <18 ○ 18-25 ○ 26-35 ○ 36-45 | <ul style="list-style-type: none"> ○ 46-55 ○ 56-65 ○ 65+ |
|---|---|

Wat is uw geslacht? Man / Vrouw

Wat is uw nationaliteit?

- Nederlands
- Westerse afkomst
- Niet-westerse afkomst

Wat was uw totale bruto inkomen in 2017?

- €0 tot € 9,999
- €10,000 tot €24,999
- €25,000 tot €49,999
- €50,000 tot €74,999
- €75,000 tot €99,999
- €100,000 en meer
- Geef ik liever geen antwoord op

Om de antwoorden goed te kunnen begrijpen willen wij u graag iets beter leren kennen. Daarover gaan de volgende vragen:

1. U ziet hier een groepje met acht woorden. Wilt u aangeven welke kenmerken goed bij u als persoon passen, en welk woord juist niet goed bij u past? Elk woordje heeft een nummer dat u hieronder kunt invullen.

1 Actief 2 Gemoedelijk 3 Bedachtzaam 4 Rustig
5 Bescheiden 6 Besluitvaardig 7 Informeel 8 Hulpvaardig

Nummer

- i. Welk woord past **het beste** bij u? _____
j. Welk woord past **het minst goed** bij u? _____

2. En welke van de volgende kenmerken passen goed, of juist niet goed bij u als persoon? Wilt u weer de nummers van uw keuze invullen.

1 Geduldig 2 Voorzichtig 3 Zelfverzekerd. 4 Spontaan
5 Enthousiast 6 Weloverwogen 7 Formeel 8 Avontuurlijk

Nummer

- k. Welk woord past **het beste** bij u? _____
l. Welk woord past **het minst goed** bij u? _____

3. En welke keuze maakt u uit deze typeringen?

1 Creatief 2 Gezellig 3 Kalm 4 Nauwkeurig
5 Evenwichtig 6 Zorgvuldig 7 Energiek 8 Optimistisch

Nummer

- m. Welk woord past **het beste** bij u? _____
n. Welk woord past **het minst goed** bij u? _____

4. En tot slot, welke woorden kiest u uit deze kenmerken?

1 Een beetje ongeduldig 2 Zachtaardig 3 Praktisch 4 Respectvol

5 Ondernemend 6 Stabiel 7 Correct 8 Joviaal

Nummer

o. Welk woord past **het beste** bij u? _____

p. Welk woord past **het minst goed** bij u? _____

Hartelijk dank voor uw medewerking!

Annex 3: Interviewguide

Goedemiddag. Ik ben Dave de Bruijn, masterstudent stedelijke geografie aan de Radboud Universiteit. Ik ben op dit moment mijn scriptie aan het schrijven met als onderwerp de rol van openbare ruimtes in de perceptie van leefbaarheid. Dit onderzoek voer ik uit aan de hand van twee projecten in de gemeente Wijchen, namelijk Tussen Kasteel en Wijchens Meer en Hart van Zuid. Om een beeld te krijgen van de rol die openbare ruimtes hebben in relatie tot leefbaarheid ben ik naast de perceptie van de Wijchenaren zelf ook benieuwd naar de ideeën achter de ontwikkeling van openbare ruimtes in Wijchen. Heeft u van te voren vragen over dit interview? Zo nee, dan begin ik met enkele algemene vragen over u, daarna volgen vragen over de openbare ruimte en ten slotte wordt de leefbaarheid behandeld.

Inleiding

1. Hoelang werkt u al bij de gemeente Wijchen?
2. Wat is precies uw taak hier bij de gemeente Wijchen? Welke rol speelt openbare ruimte hierin?
3. Vanwaar de interesse in ...?

Openbare ruimte

4. Wat verstaat u onder "openbare ruimte"?
5. Wat ziet u als belangrijkste functies van openbare ruimtes?
6. Hoe verloopt het ontwikkelingsproces van een openbare ruimte? → Terugkoppeling belangrijkste elementen.
7. Wordt er tijdens het ontwikkelen van openbare ruimtes in Wijchen rekening gehouden met de wensen van de bewoners? Wordt er ook rekening gehouden met de diversiteit van deze

bewoners?

8. Wanneer vindt u een openbare ruimte van hoge kwaliteit? En dus lage kwaliteit als..?
9. Vindt u de openbare ruimtes in het centrum van Wijchen van hoge kwaliteit? Waarom wel/niet?
10. Vindt u de openbare ruimtes in Wijchen-Zuid van hoge kwaliteit? Waarom wel/niet?
11. Zijn er problemen in de openbare ruimtes? Zo ja, worden deze problemen aangepakt? Zo ja, hoe?
12. Hoe worden de openbare ruimtes onderhouden? Is er controle?

Leefbaarheid

13. Wat verstaat u onder “leefbaarheid”?
14. Hoe beoordeelt u de leefbaarheid van Wijchen in het algemeen?
15. Wanneer is een openbare ruimte volgens u leefbaar? Waarom?
16. Vindt u de openbare ruimtes in het centrum leefbaar? En in Wijchen-Zuid?
17. Wordt leefbaarheid gebruikt om projecten in de openbare ruimte te rechtvaardigen? Zo ja, op welke manier? Zo nee, waarom niet?
18. Verhoogd het ontwikkelen van kwalitatief goede openbare ruimtes de leefbaarheid van de directe omgeving? Waarom wel/niet? En werkt het hetzelfde andersom?
19. Zijn er nog zaken die van pas kunnen komen in mijn onderzoek, maar die niet aan bod zijn gekomen in dit interview?