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THE IMPACT OF  
URBAN GARDEN AESTHETICS ON  
PLACE ATTACHEMENT OF NON-PARTICIPANTS



# THE IMPACT OF URBAN GARDEN AESTHETICS ON PLACE ATTACHMENT OF NON-PARTICIPANTS IN A NEIGHBOURHOOD

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## ABSTRACT

Urban gardens can help participants cope with social problems and have other positive effects on them, but this group of people is usually small. Garden aesthetics affect all people living in the vicinity, but there is a lack of studies that investigate these effects. Thus, the main goal was to investigate the impact of urban garden aesthetics on place attachment of non-participants. Two gardens were selected by using the list of 'cues to care' for this purpose. The Q methodology was used to solicit opinions about the importance of garden aesthetics and their influence on place attachment. Three factors with different levels of place attachment were derived by using the tripartite model of Scannell & Gifford (2010). This study concludes that there is a correlation between urban garden aesthetics and place attachment which depends on the following criteria: maintenance, diversity of plants, and garden visibility through the window or from the main entrance.

*Keywords:*

urban garden

aesthetics

place attachment

non-participants

Q methodology



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# CHAPTER I: INTRODUCTION

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Due to rapid growth and expansion of cities, the amount of land suitable and available for greening and agriculture is diminishing every year. 55% of the world's population lives in the cities nowadays, and this number will only grow with an expectation of 68% by 2050 (UN DESA | United Nations, 2018). Thus, a large part of the actual green areas will be allocated to urban spaces and the problem of green-ing scarcity will increase. The process of urbanisation has a negative impact on citizens in many differ-ent ways and also reduces people's awareness for human dependency on healthy ecosystems (Lange-meyer et al. 2018).

However, nowadays there is a tendency in planning that is aimed to increase green spaces, improve sustainability and the presence of natural components in urban areas. One of such measures is an introduction of urban gardening which can resolve a few problems simultaneously: enhance green infrastructure in cities, improve ecology but also provide additional fresh food.

Historically, urban gardening was introduced with an intent to fill the lack of food for poor residents (Saldivar-Tanaka & Krasny, 2004). Urban gardens were vitally important as a source of fresh fruits and vegetables (Armstrong, 2000), but after WWII and challenging times, the popularity of gardening de-creased (van der Jagt et al., 2017). However, new interest to food production within urban spaces appeared at the end of 20th century and urban gardening has flourished with renewed vigour (van der Jagt et al., 2017). Recently, urban gardens have become a world-wide trend again and they keep provoking the interest of new participants. Consequently, urban gardens are including more and more additional functions and facilities (e.g. playgrounds, cafes) that cater to the various needs (Drilling et al., 2016; van der Jagt et al., 2017). Thus, urban garden participants belong to different social groups, and food production is no longer one of the most important goals of urban gardening in developed cities (Armstrong, 2000).

There are many discussions that urban gardens make a big contribution to food production. Few stud-ies show that they can provide a sufficient amount of food for a whole city (McClintock et al., 2016). For example, according to Pourias et al. (2015), food production is the most important function of an urban garden. Moreover, Armstrong (2000) states that one of the most common reasons for taking part in a community garden program in upstate New York was access to fresh food. But is the produc-tion of food really such a strong and dominant characteristic of urban gardening?

There are many obstacles as to why urban gardening cannot be considered as an effective tool for food production. According to Gregory et al. (2015), approximately only 44 % of garden area is used for the purpose of gardening, and the rest is devoted for community infrastructure. Furthermore, ur-ban garden plots are usually small and therefore they cannot cope with the production of a sufficient amount of diverse food. Compared to professional food producers, urban gardens are maintained for free by ordinary people when they are not busy with their work. So, these people are not usually able or do not want to devote enough time for gardening as farmers do. Moreover, the skills of urban garden participants do not meet the required level (CoDyre et al., 2015) and food production might not be so efficient. Finally, not all people have the same reasons why they want to be involved in urban gardening. Though, McClintock et al. (2016) state that people with a small income are engaged in gardening mainly because of food production. Other gardeners, especially more educated ones,

choose gardening for different reasons such as environmental issues, relaxation and self-sufficiency (McClintock et al., 2016). So, as CoDyre et al. (2015) argue, the potential of urban gardening for food production is significant, but only in theory.

Another important aspect, as to why urban gardens cannot be considered as a complete substitute for agriculture and as the main resource of food, is that sometimes people might lose interest in food production and use an area just as a meeting place (e. g. Veen et al., 2016). Moreover, food production is rarely the only reason for gardening (Gregory et al., 2015). For example, the case study of Saldivar-Tanaka & Krasny (2004) shows that members of Latino community garden consider this garden as a place for meetings and events and as a symbol that represents their common culture but not as an agricultural land. So, there is no guarantee that people will always have an interest towards efficient food production and will constantly make sufficient efforts to maintain a garden.

Despite the controversy surrounding the efficiency of urban gardens for food production, there is evidence that urban gardening can stimulate healthier food consumption (Schram-Bijkerk et al., 2018; Soga et al., 2017) by eating more different fruits and vegetables than an average quantity. It is also affected by the emotional component: pride and joy for the fact that people grow their own food (Hale et al., 2011). In addition, it was noticed by gardeners that children would rather pick vegetables in a garden than get them at home (Hale et al., 2011). Furthermore, urban gardening practices provide educational opportunities about growing food, sustainable production and consumption (Langemeyer et al., 2018; Schram-Bijkerk et al., 2018). The introduction of gardens can positively influence not only their direct participants (gardeners), but also other people. For instance, children who can visit a garden as part of an educational process. Schram-Bijkerk et al. (2018) even suggest to include schoolchildren as effective stakeholders for the success of an urban garden. So, even without constant and sufficient amount of produced food, urban gardens make participants' diets healthier in different ways.

Besides the issues related to food, urban gardens have many other effects on people. On the one hand, due to the special green living environment, urban gardening promotes physical activity (Claessen et al., 2014; Schram-Bijkerk et al., 2018) which, in turn, contributes to the improvement of health and well-being. Studies highlight the variative positive aspects on social health as following: de-stress (Hartig et al., 2014), fatigue reduction (Soga et al., 2017), relaxation, recreation, reconnection to natural environment (Krasny & Tidball, 2009; Soga et al., 2017), community development (Saldivar-Tanaka & Krasny, 2004), and social resilience (van der Jagt et al., 2017). Participants of urban gardening projects complain about health issues less often than non-gardeners (Soga et al., 2017). A lot of studies prove that regular contact with natural environment has a positive influence on psychological and physical well-being (Soga et al., 2017). For example, Soga et al. (2017) states that the amount of green spaces in a neighbourhood correlate with the incidence of different illnesses, such as chronic or non-communicable (e. g. depression, high blood pressure). So, urban gardens provide a variety of positive effects on physical and social aspects of people.

On the other hand, urban gardens can affect negatively on people involved in gardening or just living around a garden. For example, urban gardening introduction can increase the number of conflicts among participants (van der Jagt et al., 2017). There is no guarantee to avoid them even if the rules of a garden are very strict and clear, because collective work implies the ability to negotiate and to solve problems related to the organization of gardening and social events. Moreover, despite the fact that

urban gardening facilitates to social inclusion, it can produce social exclusion to the neighbours who do not take part in gardening (Glover, 2004). In addition, Schram-Bijkerk et al. (2018) state that a garden appearance can increase pride in a neighbourhood and attract new inhabitants, which in turn can lead to the reduction of violence. However, their observation does not support this assumption, but confirms an increase of perceived safety (Gorham et al., 2009). This effect can be both positive — as it positively affects the emotional state of people — and negative, because it misleads and can lead to bad consequences. So, both positive and negative effects of an urban garden should be taken into account.

In addition to the positive impact on health and well-being, gardening contributes greatly to the environment. According to Aronson et al. (2014), urbanization reduces the number of species and has a negative impact on biodiversity. So, urban gardens can be a great solution for it and provide niche habitats and ecological connectivity (Langemeyer et al., 2018) which enable ecological resilience in urban areas (van der Jagt et al., 2017). Regardless of size, even small gardens can make a great contribution for providing food resources and water basins for species as well as opportunities for nests (Lindemann-Matthies & Marty, 2013). At the same time, it can lead to an increased number of pollinating species and a high risk of allergies (Hartig et al., 2014). Another positive contribution is that urban gardens can provide ecosystem services such as urban heat island effect (UHI) mitigation due to evapotranspiration and shadow effect (Hartig et al., 2014), and flood prevention by improving water infiltration (McClintock et al., 2016). They also improve sustainability, but non-ecological gardening methods such as the use of fertilizers and chemicals have an opposite effect (Guitart et al., 2012). In addition, food production within urban areas reduces negative effects from transportation (food mile - age and pollution) on the natural environment (Lee et al., 2015). Thus, providing organic gardening principles, urban gardens make a great impact on environmental ecosystems and sustainability (see Figure 1.1).



Figure 1.1. Urban garden benefits (Tatyana Dmitrieva, 2019).



There is a large amount of research on urban gardening, but—besides food consumption—most of them are focused on social cohesion (see e.g. Guitart et al., 2012; Schram-Bijkerk et al., 2018). It is an important topic nowadays because society is facing a decline in social cohesion due to growing urbanization, which in turn leads to social problems and conflicts (Veen et al., 2016). The results of many studies have shown that urban gardening can cope with these problems, help people to socially integrate and improve social cohesion within garden communities (van der Jagt et al., 2017). For example, the study of Armstrong (2010) shows that urban gardens facilitate social cohesion of neighbours actively involved with their own living environment and with an urban garden. Schram-Bijkerk et al. (2018) by studying 17 papers, also confirm that urban gardening improves human health by increasing social cohesion.

Veen et al. (2016) give four reasons why an urban garden can increase social cohesion:

- it unites people by giving them a "third space" besides home and "work" for leisure and relaxation;
- it provides the space for public activities in a garden (such as gardening, cooking and eating together);
- beauty of the green space attracts people where they can meet each other and communicate;
- an urban garden gives an opportunity to a group of people for working together in order to improve a place aesthetically.

According to the last two reasons, urban garden aesthetics is an important component for increasing social cohesion. However, there are not so many studies done about the visual aesthetic value of urban gardens and their influence on people and neighbourhoods (Lindemann-Matthies & Brieger, 2016; Morckel, 2015). A variety of papers just state as a fact that urban gardening affects appearance of neighbourhoods (Lindemann-Matthies & Brieger, 2016), but there is lack of knowledge about this connection.

So, what is the relationship between the aesthetics of an urban garden and social cohesion? According to Hale et al. (2011), the appearance of a garden is a symbol of the arrangement between participants and it shows their level of responsibility to do something well. That is why if garden aesthetics correspond to personal and shared expectations then gardeners might be proud of themselves and therefore social cohesion can be increased (Hale et al., 2011). Furthermore, a garden's visual appearance can affect not only social cohesion of gardeners as in the previous example, but this effect can extend to a whole neighbourhood, including non-gardeners who are not involved in social events or meetings (Veen et al., 2016). Veen et al. (2016) explain this by the fact that people living near a beautiful urban garden—but not having many social contacts—nevertheless are proud of it and want to be a part of their neighbourhood. Moreover, Hale et al., (2011) argue that an urban garden can be an option for self-expression from an aesthetic point of view and for sharing its beauty with neighbours and thus having a connection with them through the beautiful appearance of a garden. So, according to different assumptions and observations, urban garden aesthetics might influence social cohesion and it can especially have a crucial effect on people living around a garden, but not taking part in activities.

There are other benefits that can be obtained from an attractive view of an urban garden such as justification of the land use for gardening purposes (Aptekar, 2015). It is an important issue because many city gardens are in the temporary use of their participants and people often do not know the

exact decision about when and how these plots will be used in the future. For example, during her research (2015), Sofya Aptekar found out that many gardeners believed that the beauty of a garden could affect the municipality decision about a plot, whether gardeners can keep using it or it will be taken away for other needs. Moreover, Gregory et al. (2016) mention that uncertainty about the land tenure can cause the loss of enthusiasm of participants and reduce the positive effects of a garden. In turn, it will be unprofitable for an owner of a land, providing it to gardeners for food production and social benefits as well as to increase the attractiveness of a neighbourhood (Armstrong, 2000; Lindemann-Matthies & Brieger, 2016) or to improve the appearance of abandoned places (Thibert, 2012 as cited in White & Bunn, 2017). That is why even without an influence on social cohesion, urban garden aesthetics contributes to the neighbourhood view and may justify the use of land for that type of green areas.

However, the studies about the influence of garden aesthetics on social cohesion are limited. This might be because the level of aesthetics is difficult to measure and the concept is subjective. However, according to van den Berg & Winsum-Westra (2010), fundamental psychological needs—not a subjective taste—influence what style of garden people prefer. Also, Morckel (2015) argues that perceived attractiveness of a garden is more related to its level of maintenance but not to some specific characteristics of aesthetics. For example, in her research she proves that an abandoned lot can be perceived as more beautiful than a not well-maintained garden. In the paper of Nassauer & Raskin (2014), ‘cues to care’ are presented as indicators of an attractive garden. In addition, there is a direct relationship (most of the time) between positive aesthetic perception of a garden and amount of species it permanently or temporarily contains (Lindemann-Matthies et al., 2010; Lindemann-Matthies & Marty, 2013). As we can see, there are different opportunities to assess the level of aesthetics by using a variety of approach that is why subjectivity cannot be a great obstacle for doing this.

Using one of the aforementioned approaches, it is possible to evaluate aesthetics of urban gardens and then study the relations between the level of aesthetics and the level of social cohesion of people living nearby. However, the definition of social cohesion is quite complex and includes several domains (see Table 1.1), which requires much more time than half a year to study all of them. If we show the relationship between one of the domains and urban garden aesthetics, this will demonstrate the connection between aesthetics and social cohesion. However, the effect of urban garden aesthetics on each of the other domains should be studied in further research, because the relation on one level is necessary but not sufficient condition.

*Table 1.1. The domains of social cohesion (Forrest & Kearns, 2001).*

Place attachment and identity	<b>SOCIAL</b>
Common values and a civic culture	
Social order and social control	
Social solidarity and reductions in wealth disparities	<b>COHESION</b>
Social networks and social capital	

According to Forrest & Kearns (2001), place attachment is one of the five domains of social cohesion. So, if non-gardeners experience place attachment to their neighbourhood through urban garden aesthetics, then it means that they also experience social cohesion without participating in gardening and

social activities. That is why the concept of place attachment is the main focus of this paper, and the main research question is therefore:

***How does urban garden aesthetics affect place attachment of residents in a nearby neighbourhood who are not involved in gardening?***

The answer to this question is important for three reasons. Firstly, by organizing a garden correctly, the positive effects can be expanded from a small group of gardeners to all people in the neighbourhood. Secondly, as a consequence of the first reason, it can serve as justification for the land use for gardening purposes. Thirdly, a well-organized garden can improve the appearance of a neighbourhood and create a positive atmosphere caused by high social cohesion of all neighbours. Therefore, it will increase the attractiveness of a particular area for buying a house.

For answering the main question, three sub-questions are guiding:

- 1. How do people assess the importance of urban garden aesthetics in their neighbourhood?***
- 2. What attributes of place attachment are determined by residents of a neighbourhood who are not involved in gardening?***
- 3. What kind of visual characteristics influence aesthetics of an urban garden?***

The first sub-question is an important one in order to find out what non-participants think about urban garden aesthetics in relation to their neighbourhood. An urban garden is usually considered as a valuable thing for people who participate in gardening because one of the main purpose of such projects is to serve as plots for growing plants together. That is why, non-participants preferences in garden aesthetics usually are not taken into account because it seems that a garden is important only for people who take part in it. However, we do not know if garden aesthetics is of a high importance for all non-participants. Moreover, there are some other features and benefits that could be important for people besides visual characteristics of a garden. For example, friendly atmosphere created by gardeners or social events taking place in a garden might be more valuable for non-gardeners than aesthetics characteristics. Moreover, there is a chance that a garden is not important at all for anyone except the participants. So, by answering the first sub-question, we will know what kind of influence urban garden aesthetics has on inhabitants of a neighbourhood living near a garden.

If there is an evidence that urban garden aesthetics affects non-participants living around a garden, then the answer to the second sub-question will determine specific information related to place attachment. The aim of this question is to find out the list of aspects of place attachment to a neighbourhood caused by garden aesthetics.

The answer to the third sub-question will define visual characteristics that are valuable for people from the aesthetic perspective. There is a variety of possible preferences of a garden style and design. However, the main goal of this question is to determine the most common and essential garden characteristics that are valuable for people living around different urban gardens. Based on the answer to this question, the list of recommendations will be provided for designing future urban gardens and adjusting the existing ones.

Combining the information obtained from all the sub-questions, the main question will be answered. For doing this, the information about the importance of garden aesthetics and the level of place at-

tachment depending on garden visual characteristics revealed from the first two sub-questions will be put together. Finally, it will be supplemented by the list of visual characteristics of an urban garden that influence place attachment of people not involved in gardening.

## WHAT IS AN URBAN GARDEN?

A large number of concepts are used for describing the term ‘urban garden’ in various studies depending on their purpose. Many researchers define urban gardens broadly as “open spaces which are managed and operated by members of the local community in which food or flowers are cultivated” (Guittart et al., 2012). However, the type of participants, land division, the purpose of the gardening community, and whether food is sold or consumed by gardeners distinguish definitions in different papers (Pudup, 2008). In addition, there are differences in terms depending on the country. For example ‘allotment garden’ in the UK and ‘community garden’ in the US have the same meaning. So, depending on the type of a research, the concept of an ‘urban garden’ and even its name can vary a lot.

In this paper there is no need to define the urban garden structure or its purpose in detail because the study is focused on the external effects caused by garden aesthetics. That is why here the term ‘urban garden’ is defined as a garden located in a neighbourhood of an urban area and cultivated by a group of people living close to that place.

## HOW TO EVALUATE GARDEN AESTHETICS?

It seems to be difficult to evaluate garden aesthetics because of subjectivity. Scientists use different theories and approaches in order to assess it. In this paper, for doing this as well as answering the third research sub-question, the framework of Nassauer (1995) ‘cues to care’ is applied. This conceptual framework was chosen because it has a clear list of the elements that define an appealing garden. In addition, most of these characteristics can be attributed not only to aesthetics, but also to the maintenance—or how Joan Nassauer defines it as ‘neatness’—which according to Morkel’s research (2015) is much more significant for perceived attractiveness of urban gardens than other concepts related to the subjective taste. Finally, this framework was used to select two different cases, that is why it was easier to do it with a list of specific visual characteristics that did not require any additional research but just an observation.

This framework is easily applicable for choosing two different gardens but it still has some constraints. The author has developed this framework for evaluation of the landscape environment in the US. So, some of the characteristics might differ in the case of the Netherlands. However, many papers prove that the same preferences take place in European neighbourhoods (Nassauer & Raskin, 2014). Another feature of this framework, is that it was created not specifically for urban gardens but for different kinds of natural landscapes. For example, there are some characteristics describing the appearance of a field. So, only elements that are relevant to the case of an urban garden will be chosen as ‘cues to care’ in this paper.

## TRIPARTITE MODEL OF PLACE ATTACHMENT

Like the term ‘urban garden’, ‘place attachment’ does not have a precise definition and varies in different studies. In general, this term can be defined as emotional bonds that happen between people

and places important to them in a social and physical environment (Anton & Lawrence, 2016; Comstock et al., 2010; Scannell & Gifford, 2010). Some researchers sometimes substitute 'place attachment' with other terms depending on situation, for example place bonding. That is why sometimes it is difficult to understand if different authors talk about the same issues.

Scannell & Gifford (2010) describe place attachment in more detail in a tripartite organizing framework that includes the following dimensions (see Figure 1.2): person (individual and group/cultural), psychological process (affect, cognition, behaviour), and place (social and physical). That model provides comprehensive explanation of the meaning of place attachment and its characteristics.

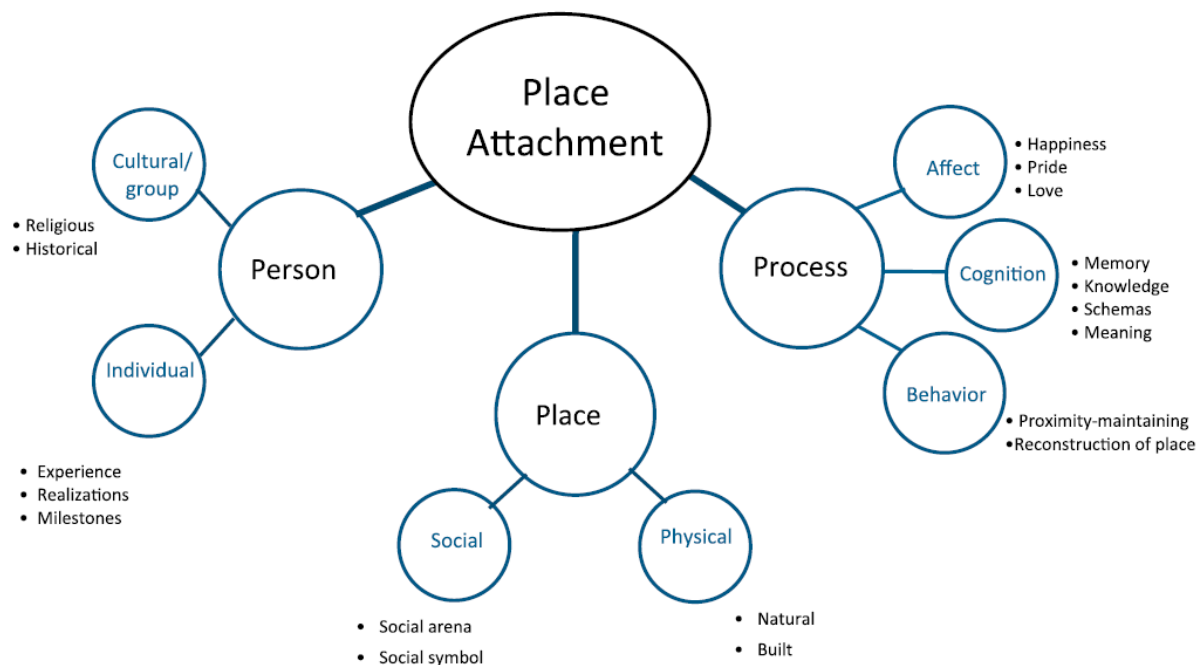


Figure 1.2. The tripartite model of place attachment (Scannell & Gifford, 2010).

In this paper the general term mentioned above is applied. Moreover, the tripartite framework is used for the formulation of the statements for the Q methodology, as well as for further analysis of the results. However, since the main topic of this thesis is the influence of the garden aesthetics on people in a neighbourhood, then some aspects from this framework are more related to the main topic. For instance, Individual from the Person dimension and Physical—from the Place. Though, all of the dimensions are taken into account for understanding the relationship between aesthetics and place attachment from different perspectives.

## Q METHODOLOGY

The character of the thesis work is a case study in the Netherlands. Using the list of 'cues to care' (Nassauer, 1995), two urban gardens with different levels of aesthetics were chosen. Then, for answering the first two sub-questions, people living in the neighbourhood but not involved in gardening were asked to take part in the research. Since the answers were expected to represent subjective opinions, personal points of view and feelings, Q Methodology was chosen as a relevant key method for doing this.

There are five strong points why Q methodology is a preferable method for the study:

- *Structured system of subjective opinions.* Despite the fact that subjective opinions are unable to be demonstrated by an evidence, Brown (1986) states that they can be structured in a coherent system by using Q-technique. So, as a result of Q method, systematically organized outcome will be obtained.
- *Small number of participants* required for the method. As it is known, low-rise houses prevail in the Netherlands, that is why the amount of people living near a garden will be not so large, and those who want to participate in the Q procedure will be even fewer. However, a large number of people is not required to get a reliable result compared to other similar methods, because in this case the results represent “a population of viewpoints” but not “a population of people” (van Exel & de Graaf, 2005). That is why for obtaining reliable results, many statements representing different points of view should be provided but few participants.
- *Coherence of statements.* The third advantage is that all statements (Q set) are not analysed by participants as separate elements—as is usually the case with online voting—but are considered as parts of one story, which can be ranked coherently according to their preferences (Brouwer, 1999).
- *Two languages.* All statements given to participants are written on paper cards. That is why it is possible to do it in two languages: Dutch and English. Whereas, the method is intended for study feelings, subjective opinions, and thoughts caused by the statements, it is important to present them in appropriate language which is easy to understand without additional thinking about the meanings of the words.
- *Online procedure.* The fourth point is that Q method can be done online which is proved by Reber, Kaufman & Cropp (2000). Online procedure is less preferable according to van Exel & de Graaf (2005) but in the case of a language problem (if most of the participants would not speak English), this might be the solution.

In the following chapter ‘cues to care’ framework and the tripartite model of place attachment will be explained in more detail. Then, we will explain the principle of Q methodology and what kind of statements were chosen for this method. After the next chapter with results obtained during the study, the discussion part will be presented. The following issues will be raised in this section: aesthetic characteristics that are directly connected to the research questions, as well as other issues such as a location of a garden that were unintentionally detected during the study process. The answer to the main research question will be in the conclusion, that will be followed by some recommendations and practical applications of the results.



## CHAPTER 2:

# PLACE ATTACHMENT & AESTHETIC FRAMEWORKS

## CHAPTER 2:

# PLACE ATTACHMENT AND AESTHETICS FRAMEWORKS

Two different frameworks are described in this chapter. The first framework was selected for answering the first and the second sub-questions, it represents the concept of place attachment and related predictors that can define the level and the cause of place attachment. The second framework serves to answer the third sub-question, it is a list of “cues to care” made by Joan Nassauer that provide with indicators of beautiful natural environment from human cultural perspective. It is important to note however that it is impossible to apply the first framework without the second one, this is because the list of ‘cues to care’ is used for choosing two different case studies based on which conclusions can be made.

## PLACE ATTACHMENT

According to the main research question, this paper will be devoted to the concept of place attachment which is one of the five dimensions of social cohesion. There was already written a lot about social cohesion in the introduction. However, place attachment was not introduced explicitly. So, what benefits does place attachment have in itself, regardless of social cohesion? How does it influence residents of a neighbourhood? What kind of elements does place attachment consist of?

According to the paper of Anton & Lawrence (2014), the term ‘place attachment’ has been defined in different ways since the first appearance of the definition till nowadays. Raymond et al. (2010) state that it is still difficult to assimilate a variety of opinions about place attachment and define the term univocally. Different authors consider place attachment as an ambiguous concept consisting of different elements such as place identity, place dependence, rootedness, sense of place and many others (Lewicka, 2011). However, there are many inconsistencies even between these terms. Moreover, the amount and composition of these elements in the place attachment concept differ in various papers. However, according to Brown et al. (2015), place identity and place dependence have been often identified as elements of place attachment. According to Raymond et al. (2010), a variety of constructs linked to place attachment overlap in different studies and there is no consensus about the right place of the concept within other factors. For example, human geographers consider two terms ‘place attachment’ and ‘sense of place’ interchangeably because both of them represent bonding between people and places important to them (Scannell & Gifford, 2017). However, some other authors believe that place attachment is one element of the bigger concept ‘sense of place’ (Scannell & Gifford, 2017). So, there is no one “right” definition of place attachment which combines and summarize all of the existing definitions.

In general as well as in this paper, place attachment means how strong people feel connected to the particular place or in other words how people are bonded to places significant to them in social and physical environments (Anton & Lawrence, 2016; Comstock et al., 2010; Scannell & Gifford, 2010). Usually, the definition of place attachment depends on the aim of a paper and therefore this general



description can be defined as detailed as necessary. It can differ on the level of place (city, home or neighbourhood levels), on the type of community or the type of bonding to the important places (Scannell & Gifford, 2010). Authors often create their own definition but they do not reject this general meaning of the term 'place attachment'.

The concept of place attachment usually has a positive meaning for people and communities. However, the high level of place attachment sometimes can have a negative effect on an individual. For instance, the papers about disaster psychology show examples when people remain in their homes located in the war zone because they feel safer at places they are attached to (Scannell & Gifford, 2010). Another example is the forced migration from a meaningful place, which can be devastated for an individual who is attached to that place (Scannell & Gifford, 2017). Anton & Lawrence (2014) state that place attachment can also stop a person from moving to another better place even if a current place has no positive effects on the quality of life or further development. However, this paper does not study countries with extremely dangerous conditions or other similar situations. Therefore, place attachment in the case of the Netherlands can be considered predominantly as a concept with a positive effect on society.

As place attachment is one of the elements of social cohesion, many benefits of the bigger concept correspond to the benefits of its element. The same as social cohesion, place attachment is strongly connected to the quality of life and well-being (Scannell & Gifford, 2017). Individuals attaching to a place experience better health, both physical and psychological (Tartaglia, 2012). They are more satisfied with the physical environment and relationships with other people (Anton & Lawrence, 2014). The comfortable social and physical state provides with an opportunity to relax and get rid of stress (Scannell & Gifford, 2017). Many different positive aspects, similar to the benefits of social cohesion, can be identified at other levels.

According to Scannell & Gifford (2017), a range of the place attachment benefits was revealed during the research, which in turn can be considered as attributes to identify attachment to a place. The three most common benefits reported by respondents were memories, belonging or feeling of fitting in and relaxation. Furthermore, people participated in that research mentioned positive emotions, feeling of freedom and entertainment as key benefits of attaching to a place. The following positive aspects were mentioned as well: comfort-security, connection to nature, practical benefits and aesthetics. So, the benefits of place attachment are a large set of different aspects—depending on a person and a situation—that improve the quality of life. That is why according to many other researchers, place attachment is a significant issue for planning public spaces and encouraging its usage (Scannell & Gifford, 2010).

## DIFFERENT FRAMEWORKS DEFINING PLACE ATTACHMENT

There is no one definition of place attachment, therefore a variety of models with different numbers of dimensions defining the term were made by scientists during the last years. The study made by Raymond et al. (2010) provides with an overview of different frameworks describing the place attachment concept. They vary in the number of dimensions or in other words in the level of detail: from two till five dimensions.

One of the simplest models that were applied for studying place attachment has only two dimensions: place identity and place dependence (Williams et al., 1992). As already was mentioned, those two aspects have been always recognized as the elements of the concept 'place attachment'. That is why it is quite logical to conceptualize the model with these two dimensions. According to the overview of Raymond et al. (2010), this model is supported by a range of studies in the United States, but still overlooks some links to the natural and social environment that is not appropriate to the case of this paper. On the one hand, urban community gardens represent a natural environment in cities. On the other hand, they make a great impact on the social component of the place attachment concept. Therefore, the two-dimensional model cannot be applied to this study.

There are two different three-dimensional models in the Raymond et al. overview (2010). The first one—'self-other-environment'—is a three-dimensional model made by Gustafson (2001). It considers place attachment from three perspectives: individual (self-), collective (other-) and physical environment around participants. Another PPP model made by Scannell & Gifford (2010) divides the place attachment into Person, Place, and Psychological Processes. Both of these models can be applied for this research, but the second model has the third dimension that explicitly characterizes all psychological processes connected to place attachment from an individual and collective perspective. That is why the second PPP model is more preferable than the first one.

However, after analysing the previous frameworks, Raymond et al. (2010) tested a four-dimensional model of place attachment in their research which includes place identity and place dependence, nature bonding and social bonding. This model was based on the tripartite model of Scannell & Gifford (2010) with some changes and additions concerning the relationship between the physical and social dimensions and 'place identity' and 'place dependence'. However, at the end of their study (2010) Raymond et al. came up with even more detailed framework—a five-dimensional model where they specified social bonding into family and friend bonding.

One can say that a five-dimensional model should be applied for this research because it is more detailed than others and has the highest amount of dimensions—5. However, the big number does not mean that it is better or more relevant to this research. The concepts of those two models (the five-dimensional and the tripartite model) are similar to each other. They both identify social and environmental aspects of place; social bonding and nature bonding. But the five-dimensional model does not consider the Psychological Process (Affect, Cognition, and Behaviour) as a separate dimension of place attachment which is more relevant to the Q method applied for this study. Moreover, the Raymond et al. model (2010) was tested at the regional scale, while Scannell and Gifford (2010) tested their model at the community scale which is more relevant to the case of urban gardens. So, despite the fact that the model of Raymond et al. (2010) is more detailed, it is less applicable for the research as the tripartite model of Scannell & Gifford (2010).

There is another reason why the model of Raymond et al. (2010) was not suitable for this study. As already was mentioned, the terms such as 'place identity' and 'place dependence', which representing two dimensions of the model of Raymond et al. (2010), vary in different papers. Therefore, the tripartite model made by Scannell & Gifford (2010) was chosen for this research in order to avoid misunderstandings in definitions.

## THE TRIPARTITE ORGANISING FRAMEWORK

The tripartite model or PPP model consists of three dimensions: personal, place and psychological process. In simple words each of three dimensions of the Scannell & Gifford model (2010) gives an answer to one of the following questions:

**Who** is attached?

**How** is attached? How are Affect, Cognition, and Behaviour revealed in the place attachment?

**What** is the object of the attachment?

Answers to the questions Who, How and What can provide with all information regarding the second sub-question: What attributes of place attachment are determined by the residents of a neighbourhood who are not involved in gardening?

### The first dimension: Individual and Collective place attachment

There are two possible levels in the first dimension. Place attachment can occur at the Individual (personal) and at the Collective (group) levels. Sometimes it is difficult to determine only one of them because they overlap within personal experience. For example, if someone's individual feeling of happiness is affected by an activity of a group. So, the feeling remains individual but include some other collective values.

The tripartite model distinguishes three elements of the individual level: realizations, milestones, and experience. These can be experiences of personal growth or some significant events connected to the place (Scannell & Gifford, 2010). Moreover, personal meanings, knowledge about the place which is important for self, or emotions caused by the place can be an attribute of place attachment on the individual level (Scannell & Gifford, 2010). So, all emotions, feelings and other individual expressions that occur between a place and a person are related to the individual level.

There are two elements determined by the authors at the group level: religious and historical. Religious-based and historical attachment is not relevant to the case of this paper. However, within the historical element, Scannell and Gifford determine the symbolic meanings shared among people (2010). An urban garden can be considered as a beautiful attraction that improves a neighbourhood appearance and creates a special meaning for that place to inhabitants and visitors of the garden.

### Conclusion

The first dimension is an important one for determining who is attached to the place. It answers the question: Is a place valuable only for one person or for many or it affects the group of people which can be called a community? In the case of an urban garden, personal feeling and emotions caused by the garden view can overlap with the Collective level when people consider a beautiful garden as a representer of themselves and their neighbours.

### The second dimension: Psychological process of place attachment

The second dimension consists of three elements: Affect, Cognition, and Behaviour. It shows how individuals and groups perceive place attachment through psychological processes. This is the most im -

portant dimension for this study because the Q statements are based mostly on the information related to mental processes, feelings, and emotions.

### Affect

Place attachment as Affect represents an emotionally expressed bonding to a place or in other words "emotional investment in a place" (Hummon, 1992 as cited in Scannell & Gifford, 2010). Different authors use a variety of emotional terms for describing place attachment. For example, in the literature on humanistic geography "love of place" is often used in such cases (Scannell & Gifford, 2010). There are other common expressions such as a feeling of pride and happiness, a desire to be close to the place or other positive emotions caused by the place (Scannell & Gifford, 2010).

Place attachment as Affect includes a range of emotions from negative to positive: from fear to love (Manzo, 2005). For example, if a person experienced trauma at this place, then it provokes negative feelings which at the same time attach the person to the place. Moreover, emotion could be positive but have a negative effect on a person. For instance, the desire to stay close to a place is positive. Moreover, a person usually has an intention to have some positive emotions and feelings from it. However, sometimes it can have negative effects on an individual, for example, if he has to leave the place (Scannell & Gifford, 2017).

In the paper of Scannell & Gifford (2017), the most common benefits of place attachment are highlighted. The emotions that expressed these benefits were varied for respondents. However, the most common one was the feeling of well-being and relaxation at this place. So, in the case of urban gardens, it can be revealed in the opportunity to be close to nature and getting its positive effect on one's health. Moreover, the garden can provide with an escape from daily stressors which provoke deterioration of health. For example, children prefer to be in their favourite places to get rid of stress (Scannell & Gifford, 2010).

Many other emotions such as happiness, joy, hope, love, and pride were combined in one group for positive emotions mentioned by respondents in the study by Scannell & Gifford (2017). All these expressions are highly relevant for the case of urban garden aesthetics because the visual characteristics of the beautiful garden can provoke them, especially the feelings of happiness and pride.

### Cognition

Cognitive elements are another important part of Psychological Process dimension. The authors of the tripartite model distinguish the following elements of Cognition: memory, knowledge, schemas, and meaning. For example, a place can evoke significant memories from the past or from childhood and therefore arises positive emotions (Scannell & Gifford, 2010). Feeling at home is another common expression reported by the respondents (Scannell & Gifford, 2017). These memories are usually connected with the places from the past that this particular place reminds about. Finally, these emotions evoked by memories can be a connection between place and an individual.

People also perceive different kinds of information from places which later transform into meanings about these places. Place recognition or familiarity is one of such examples (Scannell & Gifford, 2010). According to Fullilove (1996), attachment to the place is similar to awareness of the details of the environment and feel familiar with the place. In the case of urban gardens, this factor can be important for the interviews. If people can tell a lot of information about a garden with many details about its

view, that means that they pay attention to it and therefore they might be attached to this place. Vice versa, if participants cannot remember a garden visually then it might be not important at all and that is why no place attachment occurs.

Another factor that shows place attachment as cognition is self-definitions obtained from places (Scannell & Gifford, 2010). For example, if a person makes parallels through memories, values, and thoughts between a place and self, then it means that somehow he is attached to this place. According to Scannell & Gifford (2010), it is similar to the process when an individual distinguishes a place from other places and gives it unique characteristics. For this study, it can be a feeling when the garden aesthetics shows personal values and represents some distinctive characteristics of an individual or a community.

## **Behaviour**

The Behavioural level is the last element of the Psychological Process dimension. The tripartite model of place attachment distinguish two elements: proximity-maintaining and reconstructing of place. The authors connect both of these elements predominantly with homesickness and different cases from disaster psychology when people lose their favourite place. However, for this study proximity -maintaining can also be applied. For instance, if attachment to the garden is a reason for keep staying in a neighbourhood. So, people can be attached to a place if they do not want to relocate.

According to another research of Scannell & Gifford (2017), place attachment can be a force to action. In the case of urban garden aesthetics, a beautiful garden can inspire a person or a group of people for doing something positive in a neighbourhood. On the contrary, an unattractive garden can be a reason to spend as less time in a neighbourhood as possible and do not feel attached to that place.

## **Conclusion**

All three elements of the second dimension are highly relevant to the case of this paper. If people do not participate in the gardening than at least they can experience some emotions and feelings about its view. Moreover, the garden appearance can remind about some places from the past and brings positive emotions. The last element—Behaviour represents if people act differently depending on the garden aesthetics or not.

The Q statements were made in a way that they represent each of the elements of the second dimension several times. In addition, they also include other elements of the model from the first and third dimensions in order to understand who—an individual or a group of people—experience these feelings and because of what reason (physical or social issues).

## **The third dimension: place (object) of place attachment**

The place dimension of the tripartite model includes two levels: social and physical place attachment. Both of them are relevant to this research. On the one hand, urban gardens have many physical characteristics that are important for defining the beauty of a garden. On the other hand, one of the main aspects of a community garden is a social one. Moreover, according to urban sociologists, Social element is a necessary component of place attachment, so it will be presented anyway if a person experience attachment to a place (Scannell & Gifford, 2010).

The physical level or "rootedness" is linked to the length of living at the place, ownership, and future plans regarding moving to another place (Scannell & Gifford, 2010). However, for the case of this paper physical features of the place including natural and built environment are more relevant for an urban community garden and also can be a reason for attachment. The natural environment of a garden such as a variety of plants, amount of greening, the presence of flowers and trees and diversity can have a great influence on a personal and group attitude to the garden and attachment to that place. Moreover, urban gardens have also a built environment: building structures, fences, architectural details that also make an impact on the garden appearance and its perception by people. So, both of these elements influence what kind of feelings, emotions and thoughts residents living nearby a garden can experience.

The social level of place attachment consists of Social arena (a space for social interactions) and Social symbol which represent one specific social group. The social relationship can be manifested through social ties, familiarity with neighbours and a sense of community (Scannell & Gifford, 2010). Seeing the work of gardeners, people living nearby may experience a sense of social cohesion within a neighbourhood simply because they know their neighbours and appreciate the amount of work done by them.

## Conclusion

The third dimension of the tripartite model explains the nature of a place: is it social or physical? However, social and physical levels of place attachment can overlap each other. For example, if people in a garden make something positive then it can cause a feeling of pride of the neighbours or in the physical characteristics of the neighbourhood. On the contrary, social interactions, conversations about a garden can provoke physical place attachment. That is why it is difficult to consider those two elements separately. However, even having a mix of physical and social representations of a place, we can conclude about its essence.

## PREDICTORS OF PLACE ATTACHMENT

The tripartite model of place attachment presents three dimensions or in other words reasons of attachment that answer the following questions: Who is attached? How? And to what object? However, there are other characteristics that can influence the strength of attachment. According to Lewicka (2011), they call 'Predictors' and they are usually studied independently of the 'Dimensions'.

There are three types of predictors: socio-demographic, social (community ties), and physical (Lewicka, 2010). Socio-demographic predictor includes the following variables: length of residence, age, social status and education, ownership, size of the community, the presence of children, mobility, gender and some others.

Residence length has the highest influence on place attachment according to the previous research (Lewicka, 2011). It tends to have an effect on place attachment directly and through strengthening social ties (Lewicka, 2011). Moreover, this predictor affects attachment both to the main place of living or to the second home or recreational place. However, it should be mentioned that the amount of time physically spent in the place, excluding time spent somewhere else, defines the residence length (Kelly & Hosking, 2008). In addition, Lewicka (2011) states that the correlation between the length of

residence and the level of place attachment is not linear: during the first years of residence the highest growth of attachment can be observed.

Another important factor from the socio-demographic group is home ownership. According to Lewicka (2010), ownership has a great influence on the level of place attachment proved by many studies. People usually do not feel highly attached to a place where they rent a house and therefore, in most cases, live temporarily.

Physical predictors (e.g. natural, architectural, urban) include an endless amount of variables and that is why it is not possible to study them all. Moreover, there is a problem with the measurement of these variables. Since this paper includes the study of one physical factor—aesthetics, other physical factors were not taken into account because of the difficulty in measurement.

So, according to many papers, there are only two significant factors from the socio-demographic group that affect place attachment most of the times. Other variables vary in different studies and that is why do not have so strong correlation with the level of place attachment. That is why in this paper only two factors from the socio-demographic group are taken into account as the most important once, aesthetics—from the physical group but also gender, age and having children as predictors that can be easily observed.

## Conclusion

The tripartite organizing model represents a classification system of the key variables for defining place attachment. Different concepts unveiled by a variety of researches are divided into three dimensions in one model. According to Scannell & Gifford (2010), the tripartite model portrays a simplified version of a person attached to a place that can be applied for other studies even by researches who are not so familiar with the concept of place attachment.

One important feature of this model that it introduces all aspects of place attachment in three dimensions and therefore it precisely can define the concept of place attachment that varies from paper to paper. As it is made in this paper: a broad general definition of place attachment was taken as a basis in the beginning and more detailed characteristics are defined through the tripartite model.

For making the results more explicit several predictors of place attachment were taken into account: length of residence, ownership, age, having children and gender. All of them are the elements of a socio-demographic factor that are easily recognizable during interviews.

The tripartite model by Scannell & Gifford (2010) is used two times for this research. First, the Q statements were made according to the dimensions of the model. In Chapter 3 the process of creating the Q statements will be described more explicitly. Second, the results were analysed according to the same model, according to each element of three dimensions. It can be read in Chapter 5.

## URBAN GARDEN AESTHETICS

Urban gardens have a variety of benefits that impact different aspects of everyday life. The most studied of these benefits are linked to social cohesion within the group of people participating in the gardening activity. However, for others who do not take part in community gardening, aesthetic characteristics can still have significant value.

According to Scannell & Gifford (2017), some people become attached to their favourite places, described them as beautiful; they appreciate the visual characteristics of a place and closeness to the attractive view. In that case, Scannell & Gifford define aesthetic value as a key benefit of place attachment (2017). The aim of this paper is to find out the converse connection: when place attachment occurs because of aesthetics.

For answering the first sub-question (How do people assess the importance of the urban garden aesthetics on their neighbourhoods?) the characteristics of the beautiful garden should be defined. This allows the description of the characteristics of a beautiful garden. There is no single set of characteristics that can describe a garden that might be perceived as beautiful by everyone. Moreover, there are not so many studies done about aesthetics of urban gardens. That is why in this paper the specific elements ‘cues to care’—that can be considered as signals of human care and characteristics of a beautiful garden—are taken into account.

## CUES TO CARE

People generally prefer natural landscapes to other types of landscapes (Nassauer, 1995). However, natural environments in urban areas are perceived through a cultural lens. As a result, a landscape that is considered pleasant and attractive may not be good from an ecological perspective. In urban areas people expect to see “natural” beautiful landscapes that are accompanied by obvious signs of human care. That is why landscapes with high biodiversity, overly “natural” landscapes, and abandoned areas may be perceived as unappealing.

Neatness and order are two signs that tell a person that a place is being cared for. Too much nature in urban areas without any human care and structure can be perceived as unattractive because it does not match cultural expectations (Nassauer, 1995). So, these two signs—neatness and order—are necessary elements of a landscape that is beautiful in an urban setting from the human perspective.

Neat, ordered, well-maintained urban natural landscapes look beautiful, but they are also perceived as safe places. In turn, safe neighbourhoods with a high level of human presence and neighbourliness increase social cohesion. Kamphuis et al. (2010) demonstrated a correlation between aesthetic characteristics, perceived safety and social cohesion. Nassauer (1995) also showed that residents who have an attractive yard are perceived as people with positive personalities, which in turn increases perceived safety and social cohesion in the neighbourhood. In other words, a beautiful landscape represents a good person who has adequate amount of time, money as well as a good taste. That is why this person seems safe to his neighbours or other people.

To assist in determining what makes a human-affected landscape attractive, Nassauer created a ‘cues to care’ framework (1995). It consists of a list of visible indicators that can define beautiful natural sites from the human cultural perspective. These indicators can also be used to infer social norms in



neighbourhoods (Nassauer, 2014). The significance of different cues can vary in different regions but the main principle remains the same. Different styles, a variety of plants, diverse structure can be a part of beautiful natural landscape but human care is an integral component of perceived attraction



Nassauer (1995, 2014) has identified the following cues\* that apply to urban gardens:

- mowing
- flowering plants and trees
- wildlife feeders and houses
- trimmed trees and shrubs, plants in neat rows, hedges
- fences, architectural details, lawn ornaments, painting
- foundation planting
- structures in good repair
- neatness and order (no litter, no weeds, no stray items)
- furniture for sitting on front steps or porches

\* in her original papers (see Nassauer 1995. Nassauer, 2014) there are also cues for agricultural lands and other natural sites. This list represents only cues related to the case of urban gardens.

The following Table 2.1 lists the cues and their descriptions.

*Table 2.1. Description of cues to care (Tatyana Dmitrieva, 2019).*

CUES TO CARE	DESCRIPTION
<b>Mowing</b>  <p><i>Figure 2.1. Neat path (Tatyana Dmitrieva, 2018)</i></p>	<p>For making human presence visible in the natural environment, it is enough to have a strip of mowed turf along pedestrian walkways or streets. Some grass patches can remain untouched by people for presenting more biodiversity and naturalness.</p>
<b>Flowering plants and trees</b>  <p><i>Figure 2.2. Flowering plants (Tatyana Dmitrieva, 2016)</i></p>	<p>From a cultural perspective, people prefer to see trees in a natural environment, more so than grasses and bushes. Trees are more attractive when maintained by humans and recognizable by a specific 'unnatural' shape. Natural sites with bright flowers can be perceived as more attractive than without flowers.</p>
<b>Wildlife feeders and houses</b>	<p>Almost all people appreciate songbirds in an urban and natural environment. Birdhouses and other feeders are a visible structural cue that represent that birds and animals use and enjoy the site. That is why biodiversity at this area seems higher, which is appreciated by humans. Even if the wildlife feed-</p>

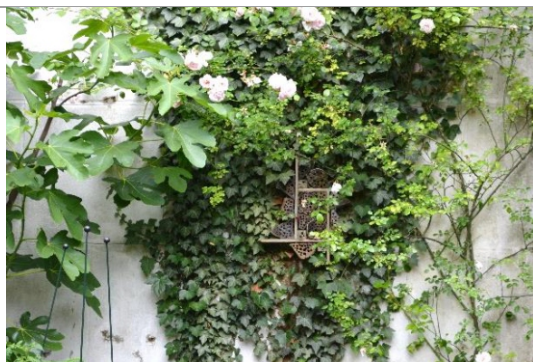


Figure 2.3. Insect hotel (Tatyana Dmitrieva, 2018)

ers and houses are not used, people usually associate the presence of these structures with the presence of animals.

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### Trimmed trees and shrubs, plants in neat rows, hedges

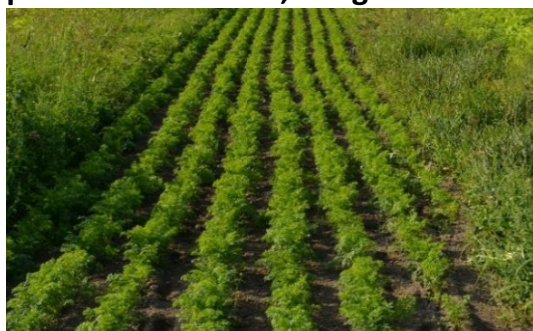


Figure 2.4. Plants in neat rows (Tatyana Dmitrieva, 2018).

Trees and other plants usually grow chaotically in natural environment. Trimmed shrubs and trees, neat rows and hedges represent natural lands cultivated and maintained by man. The presence of such are signs of human presence and care.

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### Foundation planting



Figure 2.5. Foundation planting (Tatyana Dmitrieva, 2018).

Plants covering the foundation of buildings creates an impression of naturally grown vegetation. They are perceived as beautiful if they are not overgrown and do not obscure windows and doors.

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### Structures in good repair



Figure 2.6. Structures in good repair (Tatyana Dmitrieva, 2016).

Broken structures in a garden or in another natural site create the impression that the land is abandoned. To create the opposite effect, all structures should be in good condition.



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### **Fences, architectural details, lawn ornaments, painting**



*Figure 2.7. Fences and architectural details (Tatyana Dmitrieva, 2016).*

People usually perceive neat natural areas as beautiful because they see the signs of human presence. However, if a garden has additional structures such as fences or lawn ornaments, it increases the effect of care dramatically. If plants can grow in neat rows by accident, architectural details and other structures are clear signs of human presence.

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### **Neatness and order (no litter, no weeds, no stray items)**



*Figure 2.8. Garden in Amsterdam (Tatyana Dmitrieva, 2018).*

A landscape is perceived as beautiful when it is well-maintained and clean. Litter, weeds and stray items can mar that perception.

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### **Furniture for sitting, on front steps or porches**



*Figure 2.9. Bench in the garden (Tatyana Dmitrieva, 2018).*

The availability of furniture is another valuable cue for the attractive natural site from the human cultural perspective. In this paper not only furniture on front steps or porches were taken into account but at any other places in urban gardens.

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## **Conclusion**

It is difficult to evaluate the beauty of the garden because of its subjectivity. There is no one right design for making a garden attractive to everyone. Moreover, urban gardens usually do not represent only one specific style but a mix of styles. However, according to Nassauer (1995), all urban natural landscapes are perceived through a human cultural lens. That is why landscape features that visibly demonstrate human presence and care of the environment can be considered as triggers of beauty.

‘Cues to care’ are characteristics that can be easily defined during a garden observation. For this paper, nine appropriate to urban gardens were chosen from a larger set. All of these signs (cues), in general, are related to neatness and order of the landscape that is usually highly appreciated by people, especially in urban areas.

Nassauer’s ‘cues to care’ were used twice for this research. First, two different urban gardens were chosen based on the list of cues. How this was done will be described more explicitly in chapter 4. Second, the interviews were conducted using Q methodology based on this framework. The opinions of people about the selected gardens were solicited based on the cues to care.

## THE LINK BETWEEN THE TRIPARTITE MODEL AND ‘CUES TO CARE’

Two different frameworks for evaluating the attractiveness of an urban garden have been described in this paper. Both were used in this paper for soliciting opinions related to the aesthetics and place attachment of two subject urban gardens, and, finally, for answering the main question of this paper (see Figure 2.10).

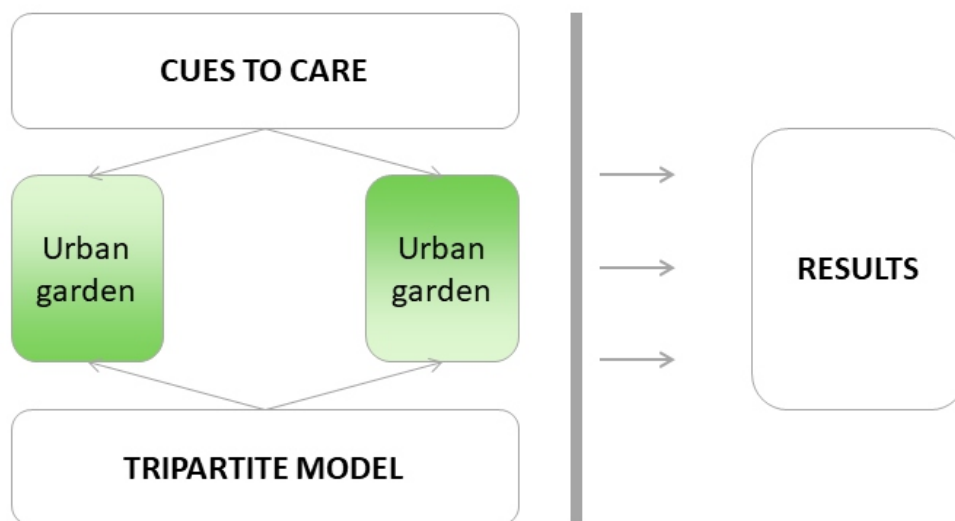


Figure 2.10. ‘Cues to care’ and Tripartite model (Tatyana Dmitrieva, 2019).

The tripartite model was used to develop statements for use in the Q methodology. Using a list of ‘cues to care’ from Nassauer (1995), two gardens displaying different levels of care were chosen. The Q methodology was used to solicit the opinions of residents who live near the gardens but are not involved in the gardening about the influence of garden aesthetics on place attachment. After the Q method was applied, the interviews were conducted in order to figure out what opinions people have about garden aesthetics and specifically about maintenance of a garden. The list of ‘cues to care’ was used for these interviews. The interviews serve to find out what signs of care are the most important for people. A secondary purpose was to determine whether the ‘cues to care’ framework is relevant and applicable in the Netherlands, and to what extent. The results obtained during the interviews and the Q procedure were analysed according to the tripartite model, and the level of place attachment in relation to each garden was derived. Finally, the correlation between garden aesthetics, measured by ‘cues to care’, and place attachment was established.



## CHAPTER 3:

# Q METHODOLOGY

## CHAPTER 3: Q METHODOLOGY

Q methodology was used to gain insight into the importance of urban garden aesthetics and how they trigger place attachment in residents. This method structures feelings, thoughts and values in a coherent system by applying factor analysis. However, Q methodology is not only a quantitative method. It represents a mix of quantitative and qualitative studies that implemented using the following five steps:

- definition of the relevant statements (concourse);
- creation of the Q set from concourse;
- selection of participants (P set);
- Q sorting by participants with the following discussion and explanation of their choices;
- analysis (van Exel & de Graaf, 2005).

For more information about this method, see Brown (1980) or a short version with basic information written by van Exel & de Graaf (2005).

Participants were asked to complete the following steps of the Q procedure:

1. Divide 42 statements written on small cards into three groups: Agree, Disagree, Neutral.
2. Count the number of cards in each group and write down these numbers.
3. Distribute the cards from the Most Disagree to the Most Agree on a specially-prepared score sheet (see Figure 3.1), according to their own opinions and feelings.

RESPONDENT NUMBER: \_\_\_\_\_ NAME: \_\_\_\_\_

MOST DISAGREE									MOST AGREE
1	2	3	4	5	6	7	8	9	
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**DISAGREE**

COUNT: \_\_\_\_

**NEUTRAL OR  
NOT RELEVANT**

COUNT: \_\_\_\_

**AGREE**

COUNT: \_\_\_\_

Figure 3.1. Score sheet for Q sorting (van Exel & de Graaf, 2005).

4. Explain their reasons for the strongest opinions ('1'—Most Agree and '9'—Most Disagree).

5. Answer some questions about the Q procedure, the relevance of the statements and give an opinion about garden aesthetics.
6. Complete an interview that is used to control the reliability of the results and to elicit the participant's general opinion about the issues related to the topic of the study.

## PROBLEMS DURING THE STUDY

The Q methodology was complicated and long for most participants. Fortunately, only one of the twenty-two participants was unable to complete it for two reasons: its complexity and because the statements were insufficiently relevant to her opinion of the garden. At the same time, such complexity of the Q method had a positive effect on people's agreement to participate in the research. It was so because a high percent of the participants understood the length of the procedure and how difficult it is only in the middle of the process. However, this could affect the results, because some people wanted to finish this procedure quickly in 20-25 minutes from the beginning. So, they still tried to help and to pay attention to every statement but they were tired already to read the statements on the small cards and distribute them on the board.

Another problem was with defining statements that were relevant. The tripartite model of place attachment was used as a basis in order to cover all aspects of the concept in the statements. A large number of articles were used to formulate appropriate statements about garden aesthetics and place attachment. Some of the statements were taken from questions used in the previous studies about place attachment, but many did not apply to both place attachment and urban garden aesthetics. Some of the statements were edited and supplemented by the author or created on the basis of the literature review, however, few participants found some of the statements to be not relevant to their experience. One participant was unable to complete the Q procedure because the statements were not relevant at all. So, the creation of the Q set caused difficulties both in the formulation of the statements and in practice, during Q procedures.

Language was also a barrier during this research. Unfortunately, not all people living in the two selected areas speak English well. At the same time, the author's Dutch was insufficient for explaining the Q procedure to participants and to conduct interviews. As a result, some residents chose not to participate in the research. This problem was partially alleviated by preparing cards with Dutch translations on the reverse side.

As a consequence of the language barrier, there is another potential problem from a statistical standpoint. The set of residents who speak English well does not necessarily reflect the views of the population as a whole.

Despite some complications, research preparation and data collection were completed according to the schedule in the research proposal. Almost all Q procedures and the interviews were conducted without significant problems related to relevance of the statements or language.

## PARTICIPANTS SELECTION

One of the main strengths of the Q methodology as well as its distinctiveness from other quantitative studies is that it does not require many participants (van Exel & de Graaf, 2005). However, in order to get reliable results, different kinds of opinions should be solicited during the study. That is why the



participants of different age, men and women, living in different places in the neighbourhoods were chosen for the Q procedure.

The group of the participants living near the Bickershof garden (students, middle-aged and older people) is more diverse than from the Oosterspoorbaan neighbourhood. The language problem was an obstacle for speaking with elderly people. Moreover, neighbourhood contains a student campus and new housing built in the last seven years, which may explain the less diverse sample group.

## HOW THE STATEMENTS WERE CREATED

An important issue for making the relevant Q statements was to keep the balance between positive and negative statements. Positive statements are those that include such expressions as 'I like', 'I'm happy', 'I'm impressed' or other similar words. Negative statements have the following phrases: 'I do not like', 'I do not support', 'I do not want' and so on. If the Q set would represent only one —positive or negative— point of view then it would be subjective as well as not relevant for people with another opinion. Moreover, predominance of negative or positive statements could force some participants to follow this opinion during the Q procedure. So, in order to avoid this problem, the amount of negative and positive statements was almost the same.

However, most of the statements in the Q set are neither positive nor negative, they are neutral. So, they do not involve any emotional evaluation but describe a relationship between urban garden aesthetics and other issues. It was made in this way that a participant could decide for himself to what level he agrees or disagrees with the statements without additional involvement of emotions. Finally, the special prepared score sheet implies that a person can evaluate the value of the statement by himself.

Another issue related to the process of defining the relevant statement is complexity of the place attachment concept. As already was mentioned, there is no one definition of place attachment and scientists understand this concept differently depending on the topic of their research. So, place attachment is a difficult term for other people as well, and not so many can describe how they experience place attachment. That is why almost all statement (except the two statements) do not involve any words that directly state about place attachment but use expressions that are related to the dimensions and elements of the tripartite model of Scannell & Gifford (2010).

In answering the question "What attributes of place attachment are determined by residents of a neighbourhood who are not involved in gardening?", the particular attention was paid to the Process dimension. That is why most of the statements were divided into three groups: Affect, Cognition and Behaviour (see Table 3.1). Since the Behaviour dimension is more relevant to disaster psychology (Scannell & Gifford, 2010), there are fewer statements in this group. Other two groups are represented by almost equal amount of statements.

While the Process dimension is of the greatest interest in this research, two other dimensions were also considered during the creation of the Q set. The light grey statements represent the social element of the Place dimension. The sentences written in italic correspond to the collective level of the Person dimension. There are some statements that can be attributed to two groups. For example, statement [3] can symbolize Affect and Cognition because at the same time it involves emotions as well as producing meanings about a garden.



Table 3.1. Distribution of the Q statements according to the elements of the Process dimension of the tripartite model, (made by the author, 2019).

Affect	Cognition	Behaviour
1. I'm impressed with the effort, time and money that people put into the garden to make it look beautiful (Hale et al., 2011).	4. <i>The garden is a visible public place that expresses a sense of beauty with the community (Hale et al., 2011).</i>	27. Beautiful garden is one of the reasons why I would not like to move out of here (Lewicka, 2010).
34. I'm happy to have an opportunity for looking at such a beautiful garden every day.	7. The garden is valuable because it has attractive or pleasing landscape (Brown et al., 2015; p. 46).	28. I began to pay more attention to aesthetic maintenance of my neighbourhood because of the garden beauty (Armstrong, 2000).
8. The beauty of the garden in my neighbourhood says a lot about who I am (Kyle et. al., 2004; p.446).	10. The beauty of the garden in my neighbourhood means a lot to me (Kyle et. al., 2004; p.446).	37. <i>I think that the behaviour of the neighbours has become more positive, since we have such a beautiful place (garden).</i>
3. When I look at the garden I always get upset because it spoils the appearance of the neighbourhood.	14. <i>I feel that the garden is a part of me and my neighbourhood (Kyle et. al., 2004; p.446).</i>	42. <i>A garden can be beautiful if someone maintains it properly.</i>
6. If the garden looked attractive, maybe I would be positive about it.	12. The beauty of the garden makes my neighbourhood unique and distinct from others (Anton & Lawrence, 2016).	
15. The presence of the garden gives me the opportunity to be closer to nature and enjoy its beauty.	11. This garden looks like a place I had in my childhood that makes me feel more like myself (Scannell & Gifford, 2017).	
18. I live too far from the garden that is why I don't feel any sentiments to its appearance.	13. Other functions of the garden (e.g. food production, meeting place) are more valuable for me than the level of its beauty.	
23. I would feel less attached to my neighbourhood if the garden was ugly and messy.	16. I think that the beauty of the garden has increased the value (price) of houses in my neighbourhood.	
24. Looking at the garden can help me to escape from daily stressors (Scannell & Gifford, 2017).	17. <i>Many of my friends/family prefer the garden in the neighbourhood over other sites because it's beautiful.</i>	
25. The appearance of the garden has increased attractiveness of my neighbourhood.	19. <i>The appearance of the garden shows that people in the neighbourhood share the same/similar values (Comstock et al., 2010).</i>	

26. The beauty of the garden makes me proud of my neighbourhood.	20. I think that my neighbourhood makes a great impact to the beauty of Utrecht by garden aesthetics.
29. I get more relaxed when looking at the beautiful garden (Scannell & Gifford, 2017).	22. <i>The garden appearance makes our neighbourhood very welcoming (Raymond et al., 2010).</i>
31. I don't like the garden aesthetics in my neighbourhood because the garden should be organized in another way.	21. I don't want to be a part of the garden because it looks ugly.
35. I like the idea of the garden but the design is very disappointing.	30. <i>The garden aesthetics show the participants values but not mine.</i>
39. I don't support the idea of having the garden in my neighbourhood—there are many other better options.	40. The garden is one of the best solution for having a beautiful natural site in my neighbourhood.
38. I feel more attached to the neighbourhood since we have the beautiful garden in it.	41. Looking at the beauty of the garden, many pleasant memories arise in my head (Scannell & Gifford, 2017).
2. <i>People walking by the garden get a sense of something really nice happening in the neighbourhood (Hale et al., 2011).</i>	32. <i>The garden is a public portrait of my neighbourhood (Nassauer, 1995).</i>
	5. I enjoy visiting the garden more than any other sites in my city (Kyle et. al., 2004; p.446).

There are also three statements that were created in order to solicit additional information about the effect of ownership, seasons, and location:

[9] The garden is not my property that is why I don't pay any attention to its appearance.

[33] The garden is beautiful but it should be in another place.

[36] The garden looks beautiful during very short period of time (e.g. summer) and the rest of the year it spoils the beauty of my neighbourhood.

## Conclusion

The purpose of the Q methodology in this study was to present subjective opinions and feelings about the influence of urban garden aesthetics on place attachment more objectively and systematically. The Q statements were created according to the tripartite model of place attachment and focus was placed on the Process dimension. The preparation process was time-consuming and it also took a lot of time and effort from the participants during the Q sorting. However, these problems were expected in the beginning of the research. That is why the desire to conduct research in several gardens was rejected. However, to enhance the credibility and trustworthiness of the research two different urban gardens were taken for the study. These two gardens as well as selection criteria will be described in the next chapter.

CHAPTER 4:

TWO GARDENS



## CHAPTER 4: TWO GARDENS

In order to find out the relationship between different aspects of aesthetics and place attachment, two urban gardens that are different in many criteria were chosen for a case study. Garden selection was based on the following criteria:

1. LEVEL OF MAINTENANCE

According to the topic of this research, two gardens with different level of aesthetics should be chosen. However, the perception of urban garden aesthetics correlates with its level of maintenance (Morckel, 2015; Nassauer, 1995). Therefore, the level of maintenance was the first and the most important criteria for choosing the gardens. It was made according to the 'cues to care' list of Nassauer (1995). So, the main aim was to find two cases with different — preferably opposite — values according to each cue. Therefore, based on the distinction of the results obtained from the residents living nearby the gardens, relations between garden aesthetics expressed through 'cues to care' and place attachment can be concluded.

2. LARGE SIZE

Size is not an essential and required criteria in order to answer the main question of this research. This criteria was chosen because of other reasons related to the difficulties with data collection—to have enough participants. On the one hand, some of the residents are involved in gardening, and that is why they cannot take part in the research. On the other hand, some people do not want to participate in the research because of other reasons. That is why both gardens should be large enough to have many inhabitants living around them.

3. STYLE

According to van den Berg & van Winsum-Westra (2010), there are many different garden styles but two types of gardens can be distinguished from all of them: formal and informal. Straight lines, repeated plantings and patterns characterise formal gardens (Laird, 1992 as it cited in van den Berg & van Winsum-Westra, 2010). An informal garden, one that has a more natural 'overgrown' view, is the opposite of a formal garden (van den Berg & van Winsum-Westra, 2010). Despite the fact that this study does not focus on identifying the preferred garden style, these two garden styles—formal and informal—are taken as a basis to select the cases that are as different as possible.

4. DISTANCE AND LOCATION IN RELATION TO HOUSES

The last criteria was the location of a garden in relation to houses. Two options were selected: a garden in the centre of a neighbourhood ('inside') and a garden at the edge of a neighbourhood ('outside').

### The level of maintenance

The level of maintenance was evaluated by the author, based on the observation and photographs done at that moment. According to each of the cues to care, two gardens were rated on a scale '1-5', where '5' is the most favourable value. Table 4.1 shows how the level of maintenance was assessed.

Table 4.1. Criteria of the level of maintenance, (Tatyana Dmitrieva, 2019)

	1	2	3	4	5
<b>MOWING</b>	no mowed lawns, all areas do not look neat	no mowed lawns, but some areas look neat	60% of lawns are overgrown	30% of lawns are overgrown	neatly mowed lawns
<b>FLOWERING PLANTS AND TREES</b>	no flowering plants and trees	1 flowering plant or tree	2 flowering plants or trees	3-4 flowering plants or trees	more than 4 flowering plants or trees
<b>WILDLIFE FEEDERS AND HOUSES</b>	no wildlife feeders and houses	1 wildlife feeder or house	2 wildlife feeders or houses	3 wildlife feeders or houses	more than 3 wildlife feeders or houses
<b>TRIMMED TREES AND SHRUBS, PLANTS IN NEAT ROWS, HEDGES</b>	no plants in neat rows, all trees and shrubs look "wild and overgrown"	almost no plants in neat rows, many trees and shrubs look "wild and overgrown"	less than half of the plants are in neat rows. Not all of plants are well-kept	half of plants are in neat rows but all of them are well-kept, trees and shrubs are trimmed	all plants are in neat rows and well-kept, trees and shrubs are trimmed
<b>FENCES, ARCHITECTURAL DETAILS, LAWN ORNAMENTS, PAINTING</b>	no fences, architectural details, lawn ornaments, painting	almost no fences, architectural details, lawn ornaments, painting	there are few fences, architectural details, lawn ornaments or painting	there are a few fences, architectural details, lawn ornaments or painting	many fences, architectural details, lawn ornaments, or painting
<b>FOUNDATION PLANTING</b>	no foundation planting or foundation planting that obscure more than 9 windows	foundation planting that obscure 7-9 windows	foundation planting that obscure 4-6 windows	foundation planting that obscure 1-3 windows	neat foundation planting that does not obscure the windows
<b>STRUCTURES IN GOOD REPAIR</b>	more than 8 structures are in need of repair	6-8 structures are in need of repair	3-5 structures are in need of repair	1-2 structures are in need of repair	all structures in good repair
<b>NEATNESS AND ORDER</b>	a lot of litter, weeds, and stray items	one of the elements (litter, weeds or stray items) is absent	two of the elements (litter, weeds or stray items) are absent	almost no litter, no weeds, and no stray items	no litter, no weeds, no stray items
<b>FURNITURE FOR SITTING ON FRONT STEPS OR PORCHES</b>	no furniture	1 place with a furniture for sitting	2-3 places	4-5 places	more than 5 places

## THE BIKKERSHOF GARDEN

The Bikkershof garden is located in the Wittevrouwen district in Utrecht. The local residents have been managing this garden independently since 1987. The main goal was to create new green public space for relaxation, social contacts and as a place for children to play. In addition, local initiatives wanted to reduce the nuisance caused by noise pollution and pollution from companies that used to work there before.

### Size

Bikkershof is a large garden: 130 by 20 meters. Concerning the sufficient number of participants, there is a great amount of people who are not involved in gardening or any activities in Bikkershof because more than 60 houses border the garden. The whole area is maintained by a few inhabitants of the neighbourhood and there are also 10 allotments which belong to the residents. However, the big size of the garden and its good location in the centre of the neighbourhood facilitate to have a big sampling group.

### Style

The Bikkershof garden belongs to the informal types of gardens. There are several parts (see Figure 4.1) that look differently and has specific purpose but, in general, the garden has a natural appearance.



1. The Helophyte Pond.
2. The Heemtuin where there is a variety of native plants from the Netherlands.
3. The Playground for the neighbourhood and the Krakeling kindergarten.
4. The Farm Garden where the typical Dutch 'Farmers' plants grow.
5. 10 allotments of 25 square meters for local residents.
6. The Herb Garden with twenty different types of herbs.
7. The Animals: rabbits and Indian runners.
8. The Greenhouse.
9. The Sun Meadow – recreational area with a big table under the fruit trees.

So, there is a linear structure in some parts of the garden but mostly the garden appearance looks natural and asymmetric with winding paths and cosy places. Moreover, there is a natural area with unmowed grass near the Helophyte Pond in order to have completely natural place in the garden and increase biodiversity of species.

Figure 4.1. The Bikkershof garden. Map. Source: <http://www.bikkershof.nl/plattegrond/>

### Distance and location in relation to houses




The Bikkershof garden is located in the inner area of the neighbourhood in close proximity to the houses (in the courtyard). Such location allows a large number of the inhabitants have a direct access to the garden from their apartments as well as to observe it through the window. Moreover, the garden in the backyards provides with a nice view to the green area from the one side of the houses.



Maintenance

Table 4.2 represents the assessment of maintenance of the Bikkershof garden according to ‘cues to care’.

Table 4.2. Evaluation of maintenance of Bikkershof, according to ‘cues to care’ list of Nassauer (1995) (Tatyana Dmitrieva, 2019).

CUES TO CARE	DESCRIPTION	VALUE
<b>Mowing</b>		
	There are different parts of garden which have their own style. The lawn in The Sun Meadow (recreational area with a big table) is mowed and has attractive appearance of well-kept lawn.	4
	There is a special “wild part” of the Bikkershof garden which purpose is to be as natural as possible, especially for different kinds of species (e.g. midwife toads) that could be attracted by its appearance. However, it is still looks neat.	
<b>Flowering plants and trees</b>		
	Despite the fact, that observation was made in autumn, there were still some flowering plants and trees.	5

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## Wildlife feeders and houses



Figure 4.5. Birdhouse in the Herb garden, Bikkershof  
(Tatyana Dmitrieva, 2018)



Figure 4.6. The resident of the Bikkershof garden (Tatyana  
Dmitrieva, 2018).

Rabbits and Indian Runner ducks live in a special place with houses made for them in the Bikkershof garden. Moreover, there are several birdhouses in different parts of the garden. The beehives are located near the Helophyte Pond. So, many and different wildlife feeders and houses as well as animals are presented in Bikkershof.

5

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## Trimmed trees and shrubs, plants in neat rows, hedges

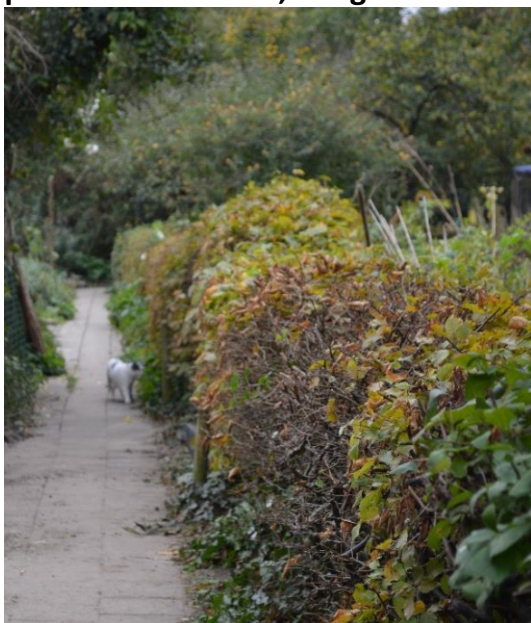


Figure 4.7. Neat rows under the cat's control in Bikkershof  
(Tatyana Dmitrieva, 2018).

The part of the garden where the allotments are located has trimmed shrubs planted in neat rows. The Herb garden also has a structure—plants grow in small square plots. However, the rest of the garden does not fit this criteria: it has more vivid view with winding paths.

3



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## Foundation planting



Figure 4.8. Foundation planting, Bickershof (Tatyana Dmitrieva, 2018).



Figure 4.9. Overgrown foundation planting, Bickershof (Tatyana Dmitrieva, 2018).

The garden is surrounded by the houses on all sides. Different plants cover the foundation and walls of the houses most of the time. However, vegetation looks overgrown in some parts and it sometimes obscures the windows.

4

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## Structures in good repair



Figure 4.10. Fences in need of repair, Bickershof (Tatyana Dmitrieva, 2018).



Figure 4.11. Fences in good condition, Bickershof (Tatyana Dmitrieva, 2018)

There are a lot of different types of structures in the Bickershof garden: fences, a children playground, furniture for sitting. Most of it is being kept in a good condition. However, some structures such as fences are in need of repair. For example, one of the fences fell down during the observation.

4

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## Fences, architectural details, lawn ornaments, painting



Figure 4.12. Details in Bickershof (Tatyana Dmitrieva, 2018).



Figure 4.13. Decorative details in Bickershof (Tatyana Dmitrieva, 2018).

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## Neatness and order (no litter, no weeds, no stray items)



Figure 4.14. Herb garden in Bickershof (Tatyana Dmitrieva, 2018).



Figure 4.15. Autumn vegetation, Bickershof (Tatyana Dmitrieva, 2018).

As already was mentioned, there are many kinds of fences in the Bickershof garden. A variety of paving tiles is used for paths in different parts of the garden. So, almost each area of the garden has some decorative man-made details. Moreover, the houses located nearby are not painted because of the brick material but well-maintained.

5

Bickershof makes an impression of a neat garden. There are no litter and no stray items. Some of the parts are well-maintained, while some of the allotments are in need of care. The observation was made in autumn that is why some of the leaves turned yellow and did not have so attractive appearance as they had in summer. Moreover, some plants were dead but were not removed from the garden. It is possible that it was made on purpose according to the principle of permaculture—a basic principle in the Bickershof garden. However, it did not look attractive from the cultural human perspective.

4



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## Furniture for sitting, on front steps or porches



*Figure 4.16. The Sun Meadow, Bickershof (Tatyana Dmitrieva, 2018).*



*Figure 4.17. Bench and a black cat in the Bickershof garden (Tatyana Dmitrieva, 2018).*

There are not so many furniture for sitting in the garden for visitors, but still there are several types of benches in different parts of Bickershof: for 1-2 people and for a group of people. However, the main goal of the research is to find out the influence of garden aesthetics on residents not involved in gardening but living nearby it. So, the residents who can observe the garden from their own terraces do not need so many additional furniture for sitting inside of it. That is why all furniture that is located at the terraces of the houses was also taken into account.

5

# THE OOSTERSPOORBAAN GARDEN

The Oosterspoorbaan is located on the former railways that connected the city centre of Utrecht and Kromme Rijngebied. It was opened on 22 January 2017 as a park with a variety of neighbourhood initiatives to make it a beautiful place for all neighbours and visitors.

Despite the fact, that Oosterspoorbaan officially is called a park, it corresponds to the definition of a garden in this paper:

- it is maintained and cultivated by a group of people living in the neighbourhood;
- most of the area is occupied by flowers and different kind of plants and shrubs, but there is also a plot with high raised garden beds for growing vegetables which is also maintained by people from the neighbourhood.

Moreover, according to some residents of the neighbourhood, the name 'park' is not correct. "I'm only a little bit disappointed. They call it a park but it's rather small", - says one of the inhabitants of this area. So, in order to avoid any misunderstanding, the name 'garden' will be used in this paper.

## Scale

The Oosterspoorbaan garden is much bigger than Bikkershof. According to the design plan (OKRA landschapsarchitecten, 2015), the length of the garden is approximately 750 meters and the width is mainly limited by rails.

A part of the garden (see figure 4.18), located between two streets—Notebomenlaan and Neptunusstraat—was taken for the research in order to make the case more specific. It was done in that way for a few reasons. Firstly, this part looks more like a garden than just a green bike lane. Secondly, more houses which have an easy and direct access to the garden are located around this area. Thirdly, that size of the plot is proportionate to the Bikkershof garden.



Figure 4.18. The case study, Oosterspoorbaan (OKRA landschapsarchitecten, 2015, edited by the author)

## Style

The Oosterspoorbaan garden belongs to the formal types of gardens. It was made according to the railways, that is why shrubs and flowers are planted in rows. Bicycle path emphasizes the linearity of the garden. High raised beds for gardening have geometric structure and most of them are also placed in a row. So, the Oosterspoorbaan garden has characteristics of a formal garden: straight lines and repeated plants in rows.

## Distance and location in relation to houses

Oosterspoorbaan is located on the edge of four neighbourhoods: Sterrenwijk, Rubenslaan, Absteede and Tolsteegsingel. That is why one can say that the garden is a green area that belongs to each of these neighbourhoods and unites all of them. So, the location of the garden in relation to the houses can be considered as 'outside' of the neighbourhood.

Compared to the case of Bikkershof, where all residents live at the same short distance from the garden, participants who took part in the research in this case, live in different neighbourhoods at diverse distances from the Oosterspoorbaan garden. Some of these people can observe the garden through their window or from the entrance of their door, but others do not have such opportunity because of the location of the garden. Almost a third of all participants live close to the garden, while the rest have to go there if they want to see it.

As was already said, there are four different neighbourhoods nearby the Oosterspoorbaan garden. The people who participated in the research are residents of three neighbourhoods: Sterrenwijk, Rubenslaan, and Tolsteegsingel. In order not to specify the name of the neighbourhood for each participant, one common name 'Oosterspoorbaan neighbourhood' will be applied in this research.

## Maintenance

Table 4.3 represents the assessment of maintenance of the Oosterspoorbaan garden according to 'cues to care'.

*Table 4.3. Evaluation of maintenance of the Oosterspoorbaan garden, (Tatyana Dmitrieva, 2019).*

CUES TO CARE	DESCRIPTION	VALUE
<b>Mowing</b>  <p><i>Figure 4.19. Neat lawn, Oosterspoorbaan (Tatyana Dmitrieva, 2018)</i></p>	All lawns located within the chosen plot are trimmed well and, in general, give a pleasant impression.	5
<b>Flowering plants and trees</b>  <p><i>Figure 4.20. Plants in Oosterspoorbaan (Tatyana Dmitrieva, 2018)</i></p>	According to the design plan (OKRA landschaps-architecten, 2015), there are a variety of flowering trees and plants. However, there was only few flowering plants at this period of the year.	2
<b>Wildlife feeders and houses</b>	There is one insect hotel in the Oosterspoorbaan garden. However, it was not found during the observation at this particular part of the garden. Moreover, there are no wildlife feeders or houses.	1

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### Trimmed trees and shrubs, plants in neat rows, hedges



Figure 4.21. Plants in neat rows, Oosterspoorbaan (Tatyana Dmitrieva, 2018).



Figure 4.22. Empty spaces, Oosterspoorbaan (Tatyana Dmitrieva, 2018).

Almost all trees and shrubs look neat and well-kept. Most of the plants are placed in neat rows. However, there are some empty spaces that interrupt the linear design and look abandoned.

4

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### Foundation planting



Figure 4.23. Foundation planting (Tatyana Dmitrieva, 2018).

Compared to another case, the Oosterspoorbaan garden is not surrounded by houses on all sides. However, where the houses are located close to the garden, there are shrubs in neat rows that obscure the foundation of houses or the fences.

5

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### Structures in good repair



Figure 4.24. High raised beds, Oosterspoorbaan (Tatyana Dmitrieva, 2018).

There are not so many structures in the Oosterspoorbaan garden: high raised beds, benches, and former rails with other railway constructions. All of these are being in good condition.

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**Fences, architectural details,  
lawn ornaments, painting**

Figure 4.25. Oosterspoorbaan (Tatyana Dmitrieva, 2018).

The Oosterspoorbaan garden does not have fences or any other architectural elements that divide the space. There are a few benches and structures that were left from the former railway. However, natural elements (grass, trees, shrubs, and flowers) and open space are the basis of the Oosterspoorbaan garden.

2

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**Neatness and order  
(no litter, no weeds, no stray items)**

Figure 4.26. Neatness (Tatyana Dmitrieva, 2018).

In general, the garden gives an impression of a clean and neat place. However, some litter was found during the observation. The high raised beds are also not well-kept: there are weeds instead of vegetables in many of them. Finally, the grass is not clean enough because of many dogs walking there.

2

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**Furniture for sitting,  
on front steps or porches**

Figure 4.27. Benches in Oosterspoorbaan (Tatyana Dmitrieva, 2018).

There are three places for sitting with several benches in each of them. However, compared to the Bikkershof garden, where all neighbours can sit on their terraces, there is much less furniture in Oosterspoorbaan.

2

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**Conclusion**

Description of two gardens and their evaluation according to four criteria were presented in these chapters. The most important criteria for the choosing of two different cases was the level of maintenance. This is why most of this chapter is devoted to the description of how that choice was made. Table 4.4 summarizes all values of maintenance that were presented in Table 4.2 and Table 4.3.

Table 4.4. The level of maintenance according to 'cues to care'. Summary (Tatyana Dmitrieva, 2019).

Cues to care	Bikkershof	Oosterspoorbaan
MOWING	4	5
FLOWERING PLANTS AND TREES	5	2
WILDLIFE FEEDERS AND HOUSES	5	1
TRIMMED TREES AND SHRUBS, PLANTS IN NEAT ROWS, HEDGES	3	4
FENCES, ARCHITECTURAL DETAILS, LAWN ORNAMENTS, PAINTING	5	2
FOUNDATION PLANTING	4	5
STRUCTURES IN GOOD REPAIR	4	5
NEATNESS AND ORDER (NO LITTER, NO WEEDS, NO STRAY ITEMS)	4	2
FURNITURE FOR SITTING	5	3
<b>Total:</b>	<b>39</b>	<b>29</b>

According to Table 4.4, the Bikkershof garden has 39 points of 'care' and the Oosterspoorbaan—29 points, which is 87% and 65% of an ideally-maintained garden correspondently (see Figure 4.28).

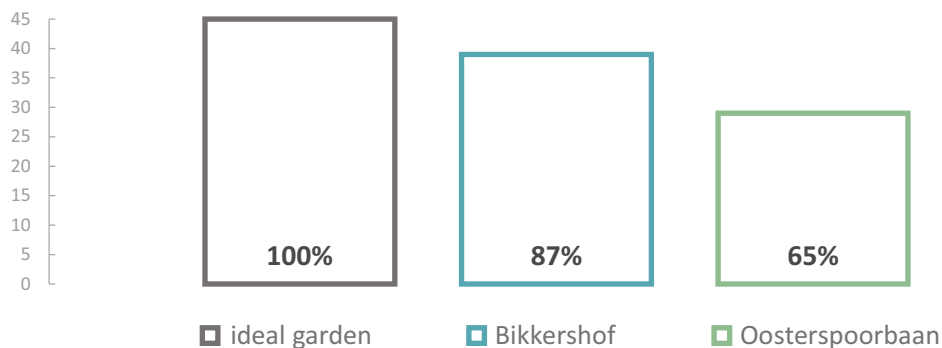


Figure 4.28. The level of maintenance compared to the ideally-maintained garden(Tatyana Dmitrieva, 2019)

So, two urban gardens—Bikkershof and Oosterspoorbaan—both have large size (for making the data collection easier) but differ according to three other criteria chosen for the study (see Table 4.5).

Table 4.5. Differences between two gardens (Tatyana Dmitrieva, 2019)

	Bikkershof	Oosterspoorbaan
<b>Maintenance (% of ideal garden)</b>	87%	65%
<b>Style</b>	informal	formal
<b>Place</b>	inside	outside

Oosterspoorbaan and Bikkershof have opposite values in 'Style' and 'Place' but not in 'Maintenance'. The Oosterspoorbaan garden still has quite high level of maintenance (65%) but much lower than the Bikkershof garden (87%), this can be considered as enough of a difference in order to reveal the relationship between aesthetics and place attachment.





# CHAPTER 5: RESULTS

# CHAPTER 5: RESULTS

In this chapter, the results obtained during the Q method will be presented and analysed according to the tripartite model of Scannell & Gifford (2010). Then, socio-demographic predictors will be described and their impact on each of the three factors will be discussed. Finally, an assessment of each garden aesthetic level will be presented in the last section of this chapter.

## FACTOR 1: HAPPY AND ATTACHED

### Composite Q sort for Factor 1

-4	-3	-2	-1	0	1	2	3	4
3. When I look at the garden I always get upset because it spoils the appearance of the neighbourhood.	* 35. I like the idea of the garden but the design is very disappointing.	** 30. The garden aesthetics show the participants values but not mine.	* 17. Many of my friends/family prefer the garden in the neighbourhood over other sites because it's beautiful.	** 28. I began to pay more attention to aesthetic maintenance of my neighbourhood because of the garden beauty.	22. The garden appearance makes our neighbourhood very welcoming.	16. I think that the beauty of the garden has increased the value (price) of houses in my neighbourhood.	** 14. I feel that the garden is a part of me and my neighbourhood.	1. I'm impressed with the effort, time and money that people put into the garden to make it look beautiful.
** 33. The garden is beautiful but it should be in another place.	* 31. I don't like the garden aesthetics in my neighbourhood because the garden should be organized in another way.	21. I don't want to be a part of the garden because it looks ugly.	11. This garden looks like a place I had in my childhood that makes me feel more like myself.	** 7. The garden is valuable because it has attractive or pleasing landscape.	38. I feel more attached to the neighbourhood since we have the beautiful garden in it.	** 29. I get more relaxed when looking at the beautiful garden.	* 2. People walking by the garden get a sense of something really nice happening in the neighbourhood.	** 40. The garden is one of the best solution for having a beautiful natural site in my neighbourhood.
	** 39. I don't support the idea of having the garden in my neighbourhood - there are many other better options.	** 6. If the garden looked attractive, maybe I would be positive about it.	13. Other functions of the garden (e.g. food production, meeting place) are more valuable for me than the level of its beauty.	** 42. A garden can be beautiful if someone maintains it properly.	* 26. The beauty of the garden makes me proud of my neighbourhood.	** 34. I'm happy to have an opportunity for looking at such a beautiful garden every day.	15. The presence of the garden gives me the opportunity to be closer to nature and enjoy its beauty.	
		* 18. I live too far from the garden that is why I don't feel any sentiments to its appearance.	19. The appearance of the garden shows that people in the neighbourhood share the same/similar values.	32. The garden is a public portrait of my neighbourhood.	27. Beautiful garden is one of the reasons why I would not like to move out of here.	25. The appearance of the garden has increased the attractiveness of my neighborhood.		
		9. The garden is not my property that is why I don't pay any attention to its appearance.	** 5. I enjoy visiting the garden more than any other sites in my city.	23. I would feel less attached to my neighbourhood if the garden was ugly and messy.	** 12. The beauty of the garden makes my neighbourhood unique and distinct from others.	* 10. The beauty of the garden in my neighbourhood means a lot to me.		
			* 8. The beauty of the garden in my neighbourhood says a lot about who I am.	* 20. I think that my neighbourhood makes a great impact to the beauty of Utrecht by the garden aesthetics.	24. Looking at the garden can help me to escape from daily stressors.			
			36. The garden looks beautiful during very short period of time (e.g. summer) and the rest of the year it spoils the beauty of my neighbourhood.	37. I think that the behavior of the neighbors has become more positive, since we have such a beautiful place (garden).	4. The garden is a visible public place that expresses a sense of beauty with the community.			
				** 41. Looking at the beauty of the garden, many pleasant memories arise in my head.				

Figure 5.1. Composite Q sort for Factor 1. Source: Ken-Q Results, <https://shawnbanasick.github.io/ken-q-analysis/>

The highest number of people (12 of 21 participants) influence the value of Factor 1 (see Table 5.1). This factor describes the most popular opinion about the garden and the effect of its beauty on the neighbourhood. Almost all people agree with approximately 50% of statements (around 20 cards) in total and disagree with 25% of statements (around 13 cards). Moreover, during the interviews they said that the statements were relevant to them and accurately expressed their opinion about the garden.

Factor 1 is defined by the residents of both neighbourhoods. However, according to Table 5.1, most of the people living near the Bikkershof garden (8 of 12) fall into this group. All Bikkershof inhabitants can see the garden through the window and almost all of them have a direct access to it from home. People from the Oosterspoorbaan also live close to the garden and almost all can observe it through the window. The respondents from Bikkershof related to the first factor vary in age (from students to elderly people), gender and number of years lived in the neighbourhood (from 1 year to 38 years). People from the Oosterspoorbaan are middle-aged with young children.

*Table 5.1. Default sort by factor group. Source: made by the author on the base of Ken-Q Results.*

Number	Participant*	Factor 1		Factor 2	Factor 3	
16	B5	0.8411	•	0.1353	-0.0489	
14	B3	0.8132	•	0.1696	0.25	
12	B1	0.794	•	0.2539	0.0104	
17	B6	0.6886	•	0.1274	0.3599	
6	O6	0.6769	•	0.0664	0.4387	
4	O4	0.6659	•	0.4333	0.4387	
3	O3	0.6497	•	0.2723	0.1855	
13	B2	0.647	•	-0.066	0.0888	
15	B4	0.6374	•	0.5252	0.2115	
21	B10	0.6238	•	0.1129	0.5114	
19	B8	0.5224	•	0.5007	0.3714	
9	O9	0.5224	•	0.4925	0.3569	
7	O7	-0.2269		0.7697	•	0.2496
18	B7	0.1847		0.6646	•	0.1913
10	O10	0.3655		0.574	•	0.1989
5	O5	0.2107		0.5513	•	-0.0116
11	O11	0.0579		0.0151	0.8121	•
8	O8	0.4433		0.2302	0.6247	•
2	O2	0.0349		0.1849	0.5799	•
1	O1	0.1313		0.5322	0.5701	•
20	B9	0.2822		0.273	0.5202	•

*\* participant number according to a garden. 'O' represents Oosterspoorbaan, 'B' – Bikkershof.*

Factor 1, which is named 'attached and happy', is characterized by enthusiastic people who are excited about garden aesthetics and experience the many benefits it has on the neighbourhood. According to the cards distribution and the interviews, all respondents think positively about the garden appearance in the surroundings. They highly value the garden aesthetics as well as the amount of effort and time that gardeners put into the garden. Moreover, people appreciate the opportunity to visit and see

the beautiful environment where they can be closer to nature and find relaxation every day. This is proved by one of the statements with the “most agree” value: “The garden is one of the best solutions for having a beautiful natural site in my neighbourhood.” One can say that they are really happy and attached to the neighbourhood because of the garden.

The inhabitants of both neighbourhoods appreciate the design of the garden, according to the Q cards distribution. The respondents are happy with its location because the statement which they most disagree with is number [33]: “Garden is beautiful but should be in another place.” According to the statements with ‘-4’ and ‘-3’ values, people do not think that the design is disappointing or that it spoils the appearance of the neighbourhood. On the contrary, they like the idea of having the garden in the living area and they do not think that it should be organised in another way.

The respondents express their opinion about the two gardens differently but all of them appreciate the variety of plants and the opportunity to spend time in this place. One of the residents living near the Bikkershof garden says: “I think the garden is very special and very beautiful. It adds a lot to the neighbourhood. The design is very successful and works well in practice.” Another opinion from the same neighbourhood: “The design is stunning: the pool, the ducks, the bees, the flowers. So peaceful. It doesn't spoil the appearance of the neighbourhood. It looks really good.” Another neighbour describes the Bikkershof garden as “pure nature.” She talks enthusiastically about areas with different styles as well as about a variety of species, insects and animals. One of the respondents from the Oosterspoorbaan neighbourhood likes the open space with the diversity of plants and trees. So, green landscapes and diversity are characteristics that participants from both gardens find attractive.

Some of the residents of the Oosterspoorbaan neighbourhood also mention that it is important to take into account the difference between the current state and how it was before. They prefer to have more diverse garden but they are still happy with the current design compared to the past. Moreover, one of the residents of Oosterspoorbaan neighbourhood likes design of the gardening part but also that it still has rails and other characteristics that connect the current view of the garden with the former appearance and history.

Composite Q sort for Factor 1 represents all dimensions and elements respectively of the tripartite model of place attachment to varying degrees. However, the Process dimension with Affect and Cognition aspects is distinguished the most between three other dimensions.

## Place attachment as process

Factor 1 represents all three elements of the Process dimension: affect, cognition and behaviour. Moreover, all of them are defined many times by a few statements from the Q sort as well as by the statements from the interviews.

### Affect

One of the most common expressions about the garden relates to happiness and love. The statement “I’m happy to have an opportunity for looking at such a beautiful garden every day” that is put under the value ‘+2’ clearly describes place attachment in emotional terms—in happiness. Moreover, in their own words people mention that they are happy with the garden. For example one of the participants from the Bikkershof neighbourhood says: “I am happy, and happy with nature and the birds,

insects and other animals in it. Especially in the evening with all the sounds of these animals it feels like you're not in the busy city for a while." Another participant combines both love and happiness in the answer: "It gives me a happy feeling and I love to be near nature while I'm living in the city." Their opinions include many different aspects of love regarding the garden. Firstly, they like to have a beautiful piece of nature just near their homes. Secondly, participants appreciate design of the garden. Finally, they like the organisation of the garden and how it is being maintained by gardeners.

## Cognition

There are many expressions showing place attachment in terms of cognition. According to the Q sort, the statement [10] with a value '+2' shows that the garden means a lot to the participants. Another statement [3] with a value '+3' ("I feel that the garden is part of me and my neighbourhood") is another expression about a bonding with the garden and the neighbourhood. It shows that people draw similarities between themselves, the garden and the neighbourhood and perceive it as a whole. The statement [16] with a value '+2' ("I think that beauty of the garden has increased the value (price) of houses in my neighbourhood") shows how the appearance of the garden affects the assessment of property in a positive way.

Moreover, during the interviews a few participants mentioned that the appearance of the garden influenced their choice of the apartment. For example, one respondent said that before, she had a very small dark plot for gardening and she did not like it. So, garden aesthetics convinced her to buy a house at this place despite the fact that she did not have enough money. Moreover, according to her words, the place was too big, too expensive and needed a renovation. However, in order to have a nice view out of the window and a special atmosphere in the neighbourhood she decided to live with the inconvenience for a few years and rent out some rooms. The presence of the garden meant a lot to her, more than temporary inconvenience. Another example is given from the same Bickershof neighbourhood: "When I came here 18 years ago, it was the garden that convinced me to buy the house, because the garden reminded me of the garden of my grandmother." It represents good memories and a link with childhood but also shows that the garden increases the value of the houses and the place.

## Behaviour

Some of the inhabitants of the Bickershof neighbourhood mention that they do not garden but they do some other work that supports the garden or the neighbourhood. For example, one respondent does some accounting work for the garden. Another person controls the bicycle parking lot. Some of the residents also mention that the atmosphere in the neighbourhood is very welcoming and more friendly because of the garden appearance. That is why relationships are supportive, close, and different from other places in the city.

## Place attachment as place

Place attachment as a place represents both levels for Factor 1: physical and social. However, the physical aspect is more pronounced and it is supported by a large number of statements from both the Q sort and the interviews.

## Physical

The respondents from both gardens refer to similar physical characteristics that they find important for themselves. For example, one of the most often mentioned characteristics was space where children can play and other people can meet. So, even if people are not into gardening, they highly appreciate the beautiful area provided by it. As one respondent asserts: "We wouldn't live in Utrecht if we couldn't have the same alternative as living by the Bikkershof garden." It is very important for this resident to live close to nature and to have a place for children to play in a safe and beautiful environment. The statement of this resident: "I don't see other options to combine nature-city, this is the best there is" shows a personal bonding specifically to this garden and its physical characteristics.

Some of the residents call their neighbourhood a unique place because of garden aesthetics. People who have been living in there for a long time give more complex opinions about the garden and its physical characteristics. They have known the neighbourhood and its surroundings for many years and can compare the present state with the past, but also with other places in the city. For example, one of the respondents from Bikkershof says that the neighbourhood with the garden is a unique place for the dense city of Utrecht. Nearby neighbourhoods also have the same or similar opportunities for making big beautiful gardens for residents and other visitors. However, the garden was realised only in one neighbourhood in the surrounding area. This opinion is supported by one of the respondents who shows the garden to her guests because it is a beautiful and distinctive place in the city.

## Social

Despite the fact that the garden aesthetics do not have a direct link to social issues, the statement [1] ("I'm impressed with the effort, time and money that people put into the garden to make it look beautiful") shows that participants connect those two sides. Another statement that supports statement [1] is "I have noticed that the people in the neighbourhood take great effort in maintaining the garden and I think they do a great job. The garden looks good." In summary, respondents appreciate the work of people and highly value this work, calling it beautiful. Moreover, the statement [30] ("The garden aesthetics show the participants values but not mine") that is put under the value '-2' shows that people agree that they share some similar values with their neighbours which can be seen through garden aesthetics.

During the interviews the participants mentioned other social benefits like an easy social connection with neighbours and feeling of community. One of the respondents from the Bikkershof neighbourhood says "I like so much to be involved by the garden to have a good environment together with others." She mentions not only herself, but other people with whom she wants to share the beautiful place. Her neighbour supports this idea with the statement: "I value the fact that people are not just individuals interested in their own property but instead finding the community just as important."

## Place attachment as person: Individual and Collective

Factor 1 represents both individual and collective values. In the previous paragraphs there were many statements that show individual place attachment. It is particularly the residents of the Bikkershof neighbourhood who experience a lot of personal feelings and emotions caused by garden aesthetics. For example, the personal perception through memories such as those about the grandmother's garden or perception of the garden as a unique place and a beautiful natural space for relaxation. More-

over, all statements about happiness and love from the Affect paragraph represent the individual level of place attachment.

There are different meanings for the community such as beauty that represents the values of the whole neighbourhood at the collective level. Moreover, the statement [2] (“People walking by the garden get a sense of something really nice happening in the neighbourhood”) with a value ‘+3’ shows that people receive positive feedback from guests and daily visitors about garden aesthetics as well as about the neighbourhood. It increases the pleasant individual perception but also the perception of all neighbours as a community. “Very special atmosphere in the neighbourhood, community—just because of the garden appearance” is another statement supporting collective place attachment to the garden and to the neighbourhood.

## CONCLUSION

‘Attached and happy’ factor represents the values of the people excited about the garden appearance in the neighbourhood. The statements from the Q sort and the interviews prove place attachment of the participants on all levels of three dimensions of the tripartite model by Scannell & Gifford (2010).

Table 5.2 summarizes the level of place attachment of Factor 1 according to each dimension element of the tripartite model. The following symbols were used to express the level of place attachment or its absence:

“++” – high level of place attachment supported by statements from the Q sort and the interviews.

“+” – normal level of place attachment supported by more than 1 statement with a low value in the Q sort or by 1 with a high value or by the interviews.

“-” – no evidence of place attachment.

*Table 5.2. Factor 1. Level of place attachment depending on the dimension elements (Tatyana Dmitrieva, 2019)*

<b>FACTOR 1 ‘HAPPY AND ATTACHED’</b>		
<b>Dimension of the tripartite model</b>	<b>Dimension Element</b>	<b>Level of place attachment</b>
<b>PROCESS</b>	Affect	++
	Cognition	++
	Behaviour	+
<b>PLACE</b>	Physical	++
	Social	++
<b>PERSON</b>	Individual	++
	Collective	++



## FACTOR 2: DETACHED BUT SUPPORTING

### Composite Q sort for Factor 2

-4	-3	-2	-1	0	1	2	3	4
21. I don't want to be a part of the garden because it looks ugly.	41. Looking at the beauty of the garden, many pleasant memories arise in my head.	* 18. I live too far from the garden that is why I don't feel any sentiments to its appearance.	39. I don't support the idea of having the garden in my neighbourhood - there are many other better options.	13. Other functions of the garden (e.g. food production, meeting place) are more valuable for me than the level of its beauty.	4. The garden is a visible public place that expresses a sense of beauty with the community.	** 9. The garden is not my property that is why I don't pay any attention to its appearance.	7. The garden is valuable because it has attractive or pleasing landscape.	42. A garden can be beautiful if someone maintains it properly.
3. When I look at the garden I always get upset because it spoils the appearance of the neighbourhood.	5. I enjoy visiting the garden more than any other sites in my city.	** 10. The beauty of the garden in my neighbourhood means a lot to me.	* 37. I think that the behavior of the neighbors has become more positive, since we have such a beautiful place (garden).	** 40. The garden is one of the best solution for having a beautiful natural site in my neighbourhood.	6. If the garden looked attractive, maybe I would be positive about it.	25. The appearance of the garden has increased the attractiveness of my neighbourhood.	1. I'm impressed with the effort, time and money that people put into the garden to make it look beautiful.	2. People walking by the garden get a sense of something really nice happening in the neighbourhood.
	** 8. The beauty of the garden in my neighbourhood says a lot about who I am.	** 24. Looking at the garden can help me to escape from daily stressors.	28. I began to pay more attention to aesthetic maintenance of my neighbourhood because of the garden beauty.	15. The presence of the garden gives me the opportunity to be closer to nature and enjoy its beauty.	23. I would feel less attached to my neighbourhood if the garden was ugly and messy.	16. I think that the beauty of the garden has increased the value (price) of houses in my neighbourhood.	22. The garden appearance makes our neighbourhood very welcoming.	
		** 11. This garden looks like a place I had in my childhood that makes me feel more like myself.	19. The appearance of the garden shows that people in the neighbourhood share the same/similar values.	32. The garden is a public portrait of my neighbourhood.	** 35. I like the idea of the garden but the design is very disappointing.	** 30. The garden aesthetics show the participants values but not mine.		
		33. The garden is beautiful but it should be in another place.	36. The garden looks beautiful during very short period of time (e.g. summer) and the rest of the year it spoils the beauty of my neighbourhood.	34. I'm happy to have an opportunity for looking at such a beautiful garden every day.	27. Beautiful garden is one of the reasons why I would not like to move out of here.	** 31. I don't like the garden aesthetics in my neighbourhood because the garden should be organized in another way.		
			17. Many of my friends/family prefer the garden in the neighbourhood over other sites because it's beautiful.	** 26. The beauty of the garden makes me proud of my neighbourhood.	** 14. I feel that the garden is a part of me and my neighbourhood.			
			20. I think that my neighbourhood makes a great impact to the beauty of Utrecht by the garden aesthetics.	29. I get more relaxed when looking at the beautiful garden.	38. I feel more attached to the neighbourhood since we have the beautiful garden in it.			
				** 12. The beauty of the garden makes my neighbourhood unique and distinct from others.				

Figure 5.2. Composite Q sort for Factor 2. Source: Ken-Q Results. <https://shawnbanasick.github.io/ken-q-analysis/>



Factor 2 is represented by people from both neighbourhoods, but predominantly from Oosterspoorbaan. They differ in age, gender and the length of residence in the neighbourhood. Compared to the first factor, respondents are sceptical to the statements from the Q set and agree with approximately 25% of them (about 10 cards from 42). Almost all of the respondents from Factor 2 live further than respondents from Factor 1 or at the same distance but cannot observe the garden through the window. For example, one participant from Bikkershof lives very close to the garden. However, there is a wall between the window and the garden: "I just don't use it because I have my own garden and I cannot see the garden."

Factor 2, which is named 'Detached but supporting,' is characterized by people who do not experience emotional connection to the garden but they take other people (who like the garden) into account and therefore support this initiative. According to the interviews, people representing this factor accept the garden appearance but mostly because of other people: neighbours, visitors and gardeners. As one of the respondents says: "The garden is really nice for the people who can use it." They notice that visitors or passers-by like the garden. For instance, the respondents from the Oosterspoorbaan state that the amount of visitors has increased and they are happy to hear positive comments about the garden.

The evaluation of the level of garden aesthetics is lower than in Factor 1. People are not so much excited by the garden and its design. However, they mostly agree that it is better to have green space in the neighbourhood than to not have it, especially if someone likes it. As one of the respondents from the Oosterspoorbaan neighbourhood states: "I believe it is a nice place for people who like it."

Many of the participants mention that they do not highly appreciate the design of the garden. It is proved by statement [31] with a value '+2': "I don't like garden aesthetics in my neighbourhood because the garden should be organised in another way." For example, the inhabitant of the Oosterspoorbaan says: "The design is too industrial for me and I see gardens more as a part of nature." His neighbour believes that the most important thing about the garden is that it is green, so different styles are possible. However, he prefers a more vivid, wild garden style and this garden is very linear. Moreover, another respondent from the Oosterspoorbaan notices that the previous view was better than it is now: "I remember how it was and actually I liked the tall trees in this part. It's really open right now and I miss the privacy a little."

However, one of the most critical statements mentioned by respondents is that "the garden can be beautiful if someone maintains it properly." There are also other comments about maintenance. For instance, a respondent from the Oosterspoorbaan neighbourhood states: "A garden can be beautiful but it's more important how good it's been maintained. Otherwise, it looks cheap." One of the inhabitants from Bikkershof believes that the garden can be tidier. She thinks it is not always in a good condition because gardeners sometimes do not have enough time and postpone some necessary work. Also, her idea is to involve some other people (e.g. students) who can clean and take care of it regularly. Another problem from the Oosterspoorbaan garden that was mentioned many times that there is no regulation about the dogs in that place and that is why it is impossible for children to play on clean grass. So, the respondents are not happy with garden maintenance from the gardening perspective as well as with cleanness in general.

Composite Q sort for the Factor 2 represents few aspects of the tripartite model of place attachment. Moreover, some of the aspects are caused by other characteristics but not by garden aesthetics.

## Place attachment as process

The study revealed information that relates to only two levels of the first Process dimension: Affect and Cognition.

### Affect

All statements about happiness, love or pride are located in the neutral part of the Q sort. The people from the second factor do not have the same feeling of joy and satisfaction as people from the first factor. However, the respondents highly appreciate the value of the garden for other people and do not mind having it in the neighbourhood. Moreover, they argue that the garden improves the neighbourhood. Statement [25] proves this: “The appearance of the garden has increased the attractiveness of my neighbourhood.” However, it has a value ‘+2’ and there are no more statements in the Q sort supporting that idea. In general, the Q sort shows that respondents do not experience a high level of emotions and feelings about the garden aesthetics.

### Cognition

According to the interviews, the respondents do not have any memories or other associations with the garden. The statement [41] with a value ‘-3’ (“Looking at the beauty of the garden, many pleasant memories arise in my head”) proves this. So, the garden does not remind residents about their childhood or about any other positive moments from their past. Moreover, one of the participants mentions: “I live *[sic]* here since 2012. In six years I don't have any memories with the garden.” So, the garden neither evokes any pleasant memories nor makes new ones.”

On the one hand, “The beauty of the garden in my neighbourhood means a lot to me” [10] with a value ‘-2’ shows that the inhabitants do not consider garden aesthetics as something meaningful. On the other hand, statement [16] “I think that the beauty of the garden has increased the value (price) of houses in my neighbourhood”—with the value ‘+2’—shows respondents assess the appearance of the garden positively.

## Place attachment as place

### Physical

There are controversial opinions about the physical state of the garden. For example, one participant says: “There are no negative sides about the garden in my opinion. I just don't use it because I have my own garden and I cannot see the garden.” So, she is not against it and also thinks that the garden is good but it is not for her. Another person mentions that the garden is fine but it is not important for him at all. He runs past the garden almost every day but does not pay any attention to it because it is just a garden. However, according to the Q sort, there are several statements with a high value (‘+3’, ‘+2’) which shows that respondents consider the physical state of the garden as valuable. For example, statement [7] (“the garden is valuable because it has attractive or pleasing landscape”) proves that people think that garden aesthetics have a positive influence on their neighbourhood.

Statement [12] (“the beauty of the garden makes my neighbourhood unique and distinct from others”) has a value ‘0’. However, respondents specifically mention this aspect of the garden, and reject the statement. For example, one of the participants states: “There are nicer places in the city and surrounding areas to visit than the garden.” Another person adds to this comment that the garden is not unique. He appreciates the Botanic garden from different kinds of natural sites in Utrecht. However, people also think that “the appearance of the garden increased the attractiveness of the neighbourhood.”

Finally, there are a few remarks about the space organisation of the garden in the Oosterspoorbaan neighbourhood. According to them, there is space but not enough furniture for sitting and meeting with friends. So, there are some special places for children or a place with sport equipment but not so much for relaxing.

## Social

The most valuable aspect for people representing the second factor is social. The respondents think about the importance of the garden to other people more than to themselves. One of the people explains the common thought of Factor 2 precisely: “Many people like the garden, some people from the surroundings come here.” According to another resident of the Oosterspoorbaan neighbourhood: “People react enthusiastic about the “garden”. So, why not have it?” Moreover, according to the Q sort, the statement [2] that supports this opinion (“People walking by the garden get a sense of something really nice happening in the neighbourhood”) has the highest value, of ‘+4’.

Another valuable point for respondents is the amount of work done by the gardeners. One person says: “I have noticed that the people in the neighbourhood take great effort in maintaining the garden and I think they do a great job.” It is also proved by statement [3] with a value ‘+3’: “I’m impressed with the effort, time and money that people put into the garden to make it look beautiful.”

One of the respondents mentions that the garden increases the sense of community in the neighbourhood. However, according to his words, he does not include himself in the community: “It strengthens the community feelings for the ones who work in it.”

## Place attachment as person: Individual and Collective

Factor 2 has more place attachment characteristics on a collective level. People representing this factor often speak about the community and other people who like the garden appearance in the neighbourhood. In general, they do not appreciate the design of the garden in addition to its level of maintenance, but they accept it because of other people. As one of the respondents says: “I have not contributed to the garden, therefore my values are not exhibited within it.” Statement [8] (“The beauty of the garden in my neighbourhood says a lot about who I am”) with a value ‘-2’ shows that respondents do not associate themselves with the garden.

## CONCLUSION

The 'detached but supporting' factor is characterized by the respondents who do not feel attachment to the garden or to the neighbourhood through garden aesthetics. Of all tripartite model levels, place attachment (on the social level of the Place dimension from the collective perspective) is most highly experienced. Residents appreciate the opportunity to have such a place in the neighbourhood for others, but they exclude themselves from these people.

Table 5.3 summarizes the level of place attachment of Factor 2 according to each dimension element of the tripartite model. The following symbols were used to express the level of place attachment or its absence:

"++" – high level of place attachment supported by statements from the Q sort and the interviews.

"+" – normal level of place attachment supported by more than 1 statement with a low value in the Q sort or by 1 with a high value or by the interviews.

"-" – no evidence of place attachment.

*Table 5.3. Factor 2. Level of place attachment depending on the dimension elements (Tatyana Dmitrieva, 2019).*

FACTOR 2 'DETACHED BUT SUPPORTING'		
Dimension of the tripartite model	Dimension Element	Level of place attachment
PROCESS	Affect	-
	Cognition	-
	Behaviour	-
PLACE	Physical	+
	Social	++
PERSON	Individual	-
	Collective	++

## FACTOR 3: RELUCTANTLY ATTACHED

### Composite Q sort for Factor 3

-4	-3	-2	-1	0	1	2	3	4
** 22. The beauty of the garden makes my neighbourhood unique and distinct from others.	* 31. I don't like the garden aesthetics in my neighbourhood because the garden should be organized in another way.	17. Many of my friends/family prefer the garden in the neighbourhood over other sites because it's beautiful.	20. I think that my neighbourhood makes a great impact to the beauty of Utrecht by the garden aesthetics.	11. This garden looks like a place I had in my childhood that makes me feel more like myself.	6. If the garden looked attractive, maybe I would be positive about it.	22. The garden appearance makes our neighbourhood very welcoming.	1. I'm impressed with the effort, time and money that people put into the garden to make it look beautiful.	** 40. The garden is one of the best solution for having a beautiful natural site in my neighbourhood.
9. The garden is not my property that is why I don't pay any attention to its appearance.	* 3. When I look at the garden I always get upset because it spoils the appearance of the neighbourhood.	** 16. I think that the beauty of the garden has increased the value (price) of houses in my neighbourhood.	* 32. The garden is a public portrait of my neighbourhood.	** 18. I live too far from the garden that is why I don't feel any sentiments to its appearance.	24. Looking at the garden can help me to escape from daily stressors.	7. The garden is valuable because it has attractive or pleasing landscape.	2. People walking by the garden get a sense of something really nice happening in the neighbourhood.	42. A garden can be beautiful if someone maintains it properly.
	5. I enjoy visiting the garden more than any other sites in my city.	41. Looking at the beauty of the garden, many pleasant memories arise in my head.	28. I began to pay more attention to aesthetic maintenance of my neighbourhood because of the garden beauty.	* 8. The beauty of the garden in my neighbourhood says a lot about who I am.	15. The presence of the garden gives me the opportunity to be closer to nature and enjoy its beauty.	25. The appearance of the garden has increased the attractiveness of my neighborhood.	* 26. The beauty of the garden makes me proud of my neighbourhood.	
		21. I don't want to be a part of the garden because it looks ugly.	36. The garden looks beautiful during very short period of time (e.g. summer) and the rest of the year it spoils the beauty of my neighbourhood.	** 30. The garden aesthetics show the participants values but not mine.	37. I think that the behavior of the neighbors has become more positive, since we have such a beautiful place (garden).	4. The garden is a visible public place that expresses a sense of beauty with the community.		
		* 35. I like the idea of the garden but the design is very disappointing.	** 27. Beautiful garden is one of the reasons why I would not like to move out of here.	* 23. I would feel less attached to my neighbourhood if the garden was ugly and messy.	13. Other functions of the garden (e.g. food production, meeting place) are more valuable for me than the level of its beauty.	** 19. The appearance of the garden shows that people in the neighbourhood share the same/similar values.		
			39. I don't support the idea of having the garden in my neighbourhood - there are many other better options.	34. I'm happy to have an opportunity for looking at such a beautiful garden every day.	* 10. The beauty of the garden in my neighbourhood means a lot to me.			
			** 14. I feel that the garden is a part of me and my neighbourhood.	* 38. I feel more attached to the neighbourhood since we have the beautiful garden in it.	29. I get more relaxed when looking at the beautiful garden.			
				33. The garden is beautiful but it should be in another place.				

Figure 5.3. Composite Q sort for Factor 3. Source: Ken-Q Results. <https://shawnbanasick.github.io/ken-q-analysis/>

People representing the third factor live in both neighbourhoods, but at a different distance from the garden in Oosterspoorbaan. Almost all people from Factor 3 are students or just younger than people representing other factors. They have different attitudes towards statements: some of them agree with a lot of statements, while others agree with only a few.

Factor 3, which is named 'reluctantly attached,' is defined by the people who like the garden and are happy with its appearance in the neighbourhood. However, they are not satisfied with the quality of its maintenance or have other complaints about it. That is why they want to be separated from the garden, even if they like the idea and the design. Statement [42] ("A garden can be beautiful if someone maintains it properly") has the highest value '+4'. As one of the respondents says: "It's beautiful now but very dirty, mostly because of dogs." This person likes the appearance of the garden and wants to visit it from time to time but prefers to visit it in a cleaner state.

On the one hand, according to the statement [12] ("The beauty of the garden makes my neighbourhood unique and distinct from others") with a value '-4', people do not consider the garden as something special in the city. On the other hand, the respondents assess the garden as "one of the best solution for having a beautiful natural site in the neighbourhood." Another distinct characteristic of Factor 3 is that the respondents disagree with the statement [9]: "The garden is not my property that is why I don't pay any attention to its appearance." They do not think that ownership is an obstacle in that case.

Despite the fact that Factor 3 includes opinions about both gardens, most complaints concern Oosterspoorbaan. For example, one of the respondents says: "Now the garden is too small, too boring and easy. There should be more places for meeting with other people in the garden." Other neighbours support the idea that the garden can be more interesting and complex. "I want to be a part of the garden to make it a place to walk and wonder" states a resident of the Oosterspoorbaan neighbourhood. As for the Bickershof garden, people appreciate the diversity of plants and trees and vivid wild nature. However, some of the people think that it could be maintained better or more regularly than it is now.

People appreciate the presence of the garden in the neighbourhood even with current maintenance. "I'm happy for the garden to be there, so it surely doesn't make me angry. It's always a positive thing" says a respondent from the Oosterspoorbaan neighbourhood. "I think that the garden gives a positive vibe to Oosterspoorbaan," agrees another person. "I don't think that the garden spoils the appearance. I think it's nice" is one more opinion from the same neighbourhood.

Compared to the second factor which also shares the opinion about poor maintenance, Factor 3 represents a group of respondents who are more happy with garden aesthetics and pay more attention to it. The work of the people involved in gardening is highly valuable but it is not the most important issue, as it was for people from Factor 2.

The composite Q sort for Factor 3 represents a few aspects of the tripartite model of place attachment. The Process dimension with Affect aspect and Social dimension are distinguished from other elements of the tripartite model.

### Place attachment as process

The study revealed information relating to only two levels of the first dimension: Affect and Cognition.

## Affect

The statement [26] with a value of '+3' ("The beauty of the garden makes me proud of my neighbourhood") affirms that people experience a feeling of pride. Other statements from the Q sort with a value of '+2' explain what garden aesthetics do for the neighbourhood. Firstly, the garden makes the neighbourhood very welcoming. Secondly, the people think that the beauty of the garden also increases the attractiveness of the neighbourhood. Finally, it is a suitable option for the neighbourhood. As one respondent states: "A garden is a great way to enhance aesthetics of the neighbourhood."

According to the interviews, people representing Factor 3 have a feeling of happiness caused by garden aesthetics. For instance, as one of the respondents from Oosterspoorbaan says: "I'm happy for the garden to be there."

## Cognition

Garden aesthetics do not evoke memories in people representing the third factor. A respondent from Bikkershof states: "I don't really have a history with the garden." Moreover, the statement [41] ("Looking at the beauty of the garden, many pleasant memories arise in my head") has a value '-2' which means that people do not agree with this sentence.

According to the interviews, people do not consider garden as a favourite place. "It's easier to go somewhere else in the city than to observe the garden in the neighbourhood. There are more interesting and nice places in the city than here" says a respondent from Oosterspoorbaan. Statement [5], with a value of '-3' ("I enjoy visiting the garden more than any other sites in my city") affirms this opinion.

## Place attachment as place

### Physical

The respondents describe positive physical characteristics in very general words: "attractive landscape", "a nice garden", and "good design." So, they are happy with the garden. However, they explain in more detail what they don't like about the garden organisation.

There are several complaints about the Oosterspoorbaan garden: dirt, safety issues and lack of meeting places. As already mentioned, there is no dog regulation at this place and that is why nobody control the situation. One of the respondents says: "When I walk with my children to the park, I only see dogs defecating." As for the safety issues, there are bicycle paths that go through the garden, causing safety issues in certain areas.

### Social

People representing the third factor highly appreciate the work of the gardeners. According to the Q sort, statement [1] ("I'm impressed with the effort, time and money that people put into the garden to make it look beautiful") has a value of '+3,' which shows a high level of agreement with the sentence.

According to statement [19] with a value of '+2' ("The appearance of the garden shows that people in the neighbourhood share the same/similar values"), respondents partially associate themselves with the neighbourhood, through garden aesthetics. As one of the respondents from Oosterspoorbaan says "[...] I feel as a part of the neighbourhood."



## Place attachment as person: Individual and Collective

Respondents representing Factor 3 have both individual and collective values. One of the inhabitants of Oosterspoorbaan states: “The garden brings positive feelings to the neighbourhood. It unites the people living here.” There are other people from the same neighbourhood who say that the Oosterspoorbaan garden connects different parts of the neighbourhood from both sides of the garden. It represents the collective aspect of place attachment. Another valuable statement is “People walking by the garden get a sense of something really nice happening in the neighbourhood” [2] with a value of ‘+3.’ So, participants from both gardens talk about visitors and guests who mention a positive environment in the neighbourhood. Statement [22] with a value of ‘+2’ (“The garden appearance makes our neighbourhood very welcoming”) supports the previous statement and adds another dimension to the garden impact.

As for individual value, according to the Q sort and the interviews, respondents appreciate garden aesthetics. Moreover, as already mentioned, some of them feel like a part of the neighbourhood.

## CONCLUSION

‘Reluctantly attached’ factor is characterized by the participants who feel somewhat attached to garden aesthetics but not highly attached, because they have a lot of complaints about its organisation and maintenance. However, they are still happy with its appearance to some extent. They experience a similar level of social attachment on the collective level compared to respondents in Factor 2, but also they have a high level of place attachment as Affect. Moreover, participants also appreciate the Physical aspect of the garden but not as much as people from Factor 1 do.

Table 5.4 summarizes the level of place attachment of Factor 3 according to each dimension element of the tripartite model. The following symbols were used to express the level of place attachment or its absence:

“++” – high level of place attachment supported by statements from the Q sort and the interviews.

“+” – normal level of place attachment supported by more than 1 statement with a low value in the Q sort or by 1 with a high value or by the interviews.

“-” – no evidence of place attachment.

*Table 5.4. Factor 3. Level of place attachment depending on the dimension elements (Tatyana Dmitrieva, 2019).*

FACTOR 3 ‘RELUCTANTLY ATTACHED’		
Dimension of the tripartite model	Dimension Element	Level of place attachment
PROCESS	Affect	++
	Cognition	-
	Behaviour	-
PLACE	Physical	+
	Social	++
PERSON	Individual	+
	Collective	++

## SIMILARITIES AND DIFFERENCES BETWEEN THE THREE FACTORS

All three factors indicate a high level of place attachment on a social level of the Place dimension as well as place attachment on a collective level of the Person dimension (see Table 5.5). Moreover, the physical element of the Place dimension represents place attachment within three factors but each to a different extent.

*Table 5.5. Level of place attachment by the dimensions of the tripartite model for three factors (Tatyana Dmitrieva, 2019).*

		LEVEL OF PLACE ATTACHMENT		
Dimension of the tripartite model	Dimension Element	FACTOR 1 'HAPPY AND ATTACHED'	FACTOR 2 'DETACHED BUT SUPPORTING'	FACTOR 3 'RELUCTANTLY ATTACHED'
PROCESS	Affect	++	-	++
	Cognition	++	-	-
	Behaviour	+	-	-
PLACE	Physical	++	+	+
	Social	++	++	++
PERSON	Individual	++	-	+
	Collective	++	++	++

The first factor shows the highest level of place attachment on almost all levels. The third factor indicates a high level of attachment on only three levels (affect, social and collective). However, physical and individual level also show place attachment but to a lesser extent. According to Table 5.5 and the interviews, Factor 2 does not demonstrate place attachment through garden aesthetics. However, people experience attachment to the neighbourhood because of some other reasons: social and collective levels show a high level of attachment.

## SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The characteristics—'length of residence', 'ownership', 'gender', 'age', and 'having children'—of 21 participants are summarized in Table 5.6. It was made in such a way that it was not taken into account which garden the participants belong to. Description of each factor has information about the Ooster-spoorbaan and the Bikkershof participants separately.

Table 5.6. Socio-demographic characteristics of respondents (Tatyana Dmitrieva, 2019).

	FACTOR 1	FACTOR 2	FACTOR 3
<b>Length of residence</b>	Dominated by people with a long period of residence: more than 5 years	Mostly people with a very long period of residence: more than 7 years	Dominated by people with a short period of residence: less than 3 years
<b>Ownership</b>	Mostly homeowners	More homeowners than renters	More renters than owners
<b>Gender</b>	50% men, 50% women	More men	Mostly men
<b>Age</b>	All ages		Prevailed by respondents younger than 30 years; students
<b>Having children</b>	50% no children, 50% having children	More respondents with children	Mostly no children

Socio-demographic characteristics of all factors have some distinctive features. Factor 1 is dominated by homeowners with a long period of residence. Factor 2 is represented by a very long period of residence. However, other predictors are not so apparent: they contain multiple characteristics, some being dominant and others less so. Factor 3 includes people with a short period of residence: mostly young men without children.

Factor 3 is the most different from the presenting three factors by all five predictors. Socio-demographic characteristics of Factor 1 and Factor 2 are slightly different. However, there are more similarities than differences.

## ASSESSMENT OF GARDEN AESTHETICS

During the interviews almost all participants (except two) evaluated the garden beauty from 0 to 10. It was done in order to have additional quantitative evaluation of garden aesthetics and to compare it with the value of maintenance done in Chapter 4. The results of this survey are presented in Table 5.7 with the calculated average for each of the two gardens. However, there was no specific criteria for this assessment and each of the participants did it according to his or her feelings.

Table 5.7. Assessment of garden aesthetics by garden (Tatyana Dmitrieva, 2019).

	PARTICIPANT NUMBER											Average
	1	2	3	4	5	6	7	8	9	10	11	
<b>BIKKERSHOF</b>	8.5	9	10	7.5	9	7.5	8	7.5	-	8		<b>8.33</b>
<b>OOSTERSPOORBAAN</b>	5	6	8	-*	7	8	6.5	7	8	7	8	<b>7.05</b>

\*Two participants did not evaluate garden aesthetics.

## Conclusion

All results obtained during the research were presented in this chapter: three factors with an explanation according to the tripartite model; similarity and differences between these factors; socio-demographic characteristics; and assessment of garden aesthetics by factor and by garden. The findings will be discussed in the next chapter.

# CHAPTER 6:

## DISCUSSION



## CHAPTER 6: DISCUSSION

Lewicka (2011) asks whether a particular place is still important for population in conditions of increased mobility and globalization. On the one hand, there are more and more people who change their places of residence and relocate to another country or city. On the other hand, cultural differences slowly disappear and it is harder to see a distinctness in different places around the world. Perhaps nowadays attachment to a neighbourhood or to another place does not occur as often as it did before. Nevertheless, a large number of studies confirm a high level of place attachment despite all of the features of the present time (Lewicka, 2011). Thus, places and place attachment are still valuable to people.

The results of this study show that urban gardens and particularly their aesthetics are important for people. However, the main focus of the research was on urban garden aesthetics and its influence on place attachment. That is why Q methodology was applied for two urban gardens in Utrecht in order to find out the importance of garden aesthetics for residents who are not involved in gardening and what aspects of place attachment are experienced by people affected by garden aesthetics. This study detected three factors: (1) happy and attached, (2) detached but supporting and (3) reluctantly attached—that show differences in attitude towards garden aesthetics and in a level of place attachment to a neighbourhood.

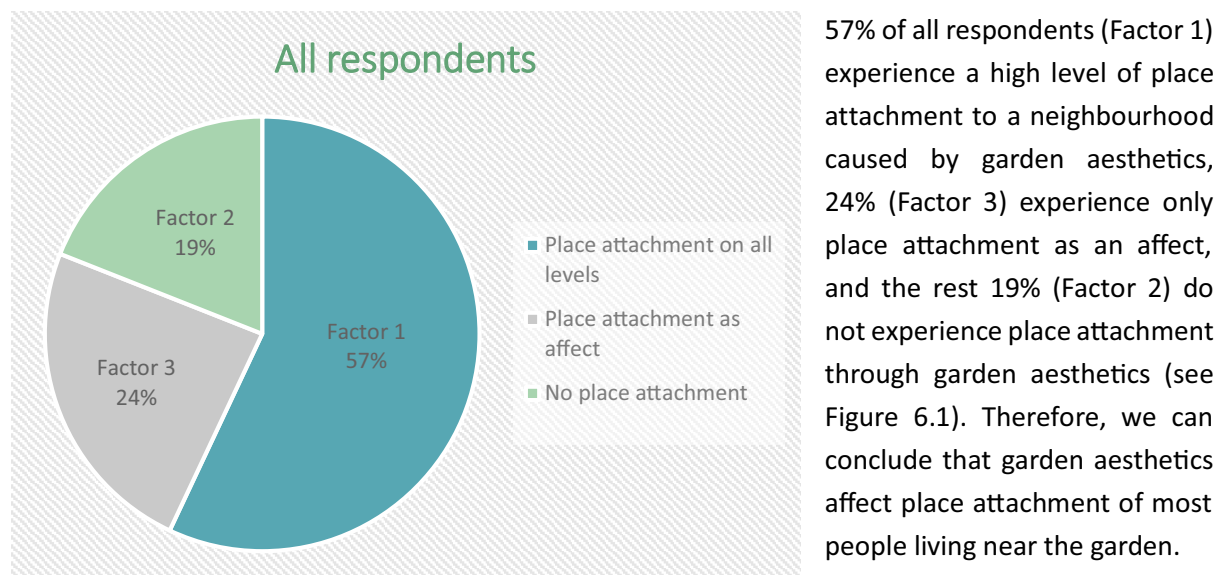


Figure 6.1. Distribution of all respondents by the level of place attachment (Tatyana Dmitrieva, 2019).

The 'Happy and attached' factor shows a remarkable appreciation of garden aesthetics in the neighbourhood. Moreover, the group of people representing this factor includes more than 50% of all respondents. Therefore, Factor 1 demonstrates the prevailing effect of garden aesthetics on place attachment, which proves that garden aesthetics affect the place attachment of people living nearby.

Besides the feeling of pride, the respondents from the 'happy and attached' group experience a variety of positive emotions, feelings and pleasant memories caused by garden aesthetics. Moreover, some of the people inspired by the garden even do some extra work for the neighbourhood. Respondents representing the first factor describe the garden as a unique, beautiful, and natural place that unites inhabitants. Moreover, they connect the physical garden's characteristics with the social envi-

ronment within the neighbourhood. Furthermore, for some of the residents the appealing garden was a crucial reason to buy a house in the garden area, which in turn can be a solid justification for the land use for gardening. So, people from the 'happy and attached' factor consider the garden to be an important issue for the neighbourhood. They recognize themselves as a part of a community even without being involved in gardening with their neighbours. Therefore, Factor 1 shows a strong relation between garden aesthetics and place attachment of non-participants and represents what people experience from a beautiful garden.

The 'reluctantly attached' factor also suggests that garden aesthetics affect place attachment. The garden's appearance causes many positive emotions and feelings. Moreover, the respondents appreciate the garden design and its location. However, the influence on other levels of place attachment is not so strong. Thus the respondents representing the third factor experience high level of place attachment as affect but they do not experience it as cognition and behaviour at all. To understand why this happens, we turn to the third sub-question—"What kind of visual characteristics influence the aesthetics of the urban garden?"—which is directly related to this cause.

## VISUAL CHARACTERISTICS OF A BEAUTIFUL GARDEN

The level of maintenance was taken as a measure of aesthetics in this research. According to Morckel (2015), the quality of garden maintenance is more important for people than specific features of aesthetics. A garden can be designed in different styles but it has to be well-maintained in order to have an attractive appearance. Nassauer (1995) states that people like to look at the natural environment within urban landscapes, but they only evaluate it as beautiful if they see some specific human cultural characteristics which she calls 'cues to care'. Therefore, the main attention was paid to the signs of care and maintenance of two urban gardens, that were easily identified by observations.

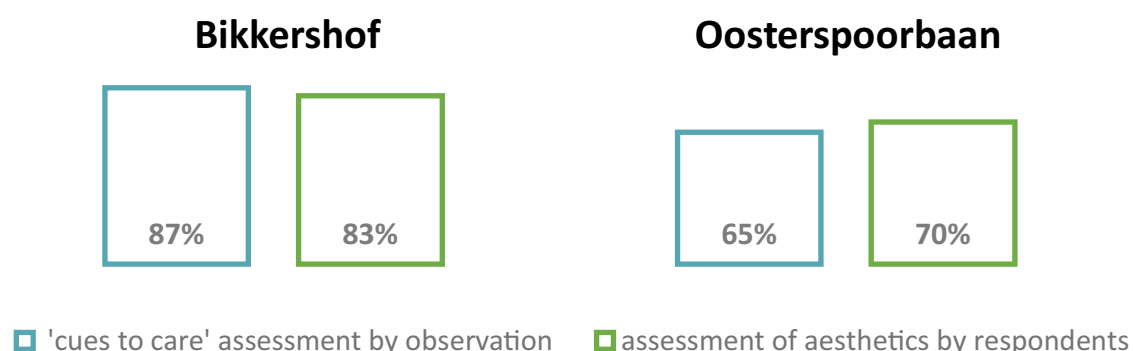


Figure 6.2. Assessment of aesthetics of two gardens (100% is an ideal garden) (Tatyana Dmitrieva, 2019).

The data obtained through observation according to the list of 'cues to care' is quite similar to quantitative assessment of garden aesthetics by respondents (see Figure 6.2). It should be taken into account that people were asked to evaluate garden aesthetics from '0' to '10' without any specific criteria. However, even considering this fact, the numbers are close enough to state that there is correlation between the level of maintenance evaluated according to the 'cues to care' framework and garden aesthetics. That is why the framework by Nassauer (1995) can be considered as relevant for this study.

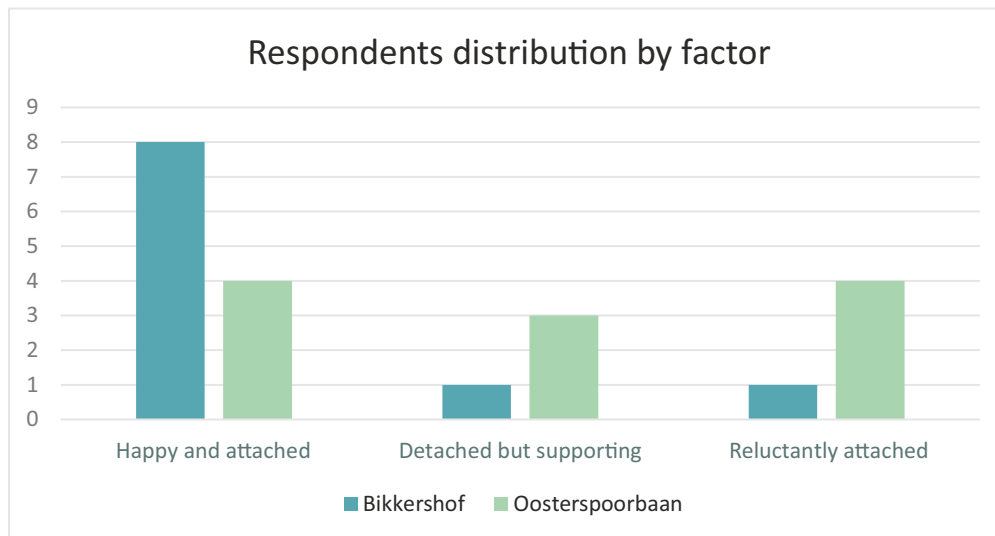


Figure. 6.3. Respondents distribution by factor (Tatyana Dmitrieva, 2019).

Almost all people representing the 'reluctantly attached' factor are inhabitants of the Oosterspoorbaan neighbourhood. They like the design and the idea of the garden in the neighbourhood, but they complain a lot about the maintenance. According to the Figure 6.3, the Oosterspoorbaan garden has much lower level of maintenance and care than the Bikkershof garden. During the observation, low scores are given for those characteristics that can be called 'unnatural' such as architectural details, wildlife feeders and houses, and furniture for sitting. However, respondents mention that they are not satisfied with neatness of the garden—one of the cues to care (Nassauer, 1995). They are particularly unhappy with the purity of the ground and grass. That is why they do not like to visit the area and do not want their children to play there too often.

In general, residents of the both neighbourhoods mentioned the importance of garden neatness and plants grooming. This is one of the most important criteria of a beautiful garden in the residential area for many of respondents. While the Bikkershof garden has a high rating of neatness, the value of the Oosterspoorbaan garden neatness is '2' out of '5'. The garden gives the impression of being clean from a distance, but the words of residents and observation confirm that the lawn requires additional cleaning. As one of the respondents from the Oosterspoorbaan neighbourhood says: "I want to be a part of the garden, to make it a place to walk and wonder. Now I only see things in the park that shouldn't be there". So, the garden attracts people but the level of maintenance and neatness stops people from visiting it and feeling part of it.

There is another reason why some people from Factor 3 find a garden as an attractive place of the neighbourhood but still do not want to go there. This reason is a lack of furniture and places for sitting and meeting with friends. According to 'cues to care' list made by Nassauer (1995), furniture for sitting is a valuable characteristic for people for determining a beautiful natural landscape in urban area. Furniture in good condition attracts people to visit the garden, makes the pastime more comfortable and long, and also show that this place is maintained by someone regularly.

Compared to the Oosterspoorbaan garden, the Bikkershof garden has many more options for sitting in different parts of the garden: diverse benches, a table with places for sitting for a big group of people. Moreover, almost all inhabitants live so close to the garden that they can sit on their own terrace and enjoy the view. As one resident from the Bikkershof neighbourhood says: "I like to sit



outside and enjoy nature. The garden makes me feel rest.” So, the Oosterspoorbaan garden has places for sitting and the amount of benches might seem like enough for some people, but compared to another garden, there are not many options.

There are other characteristics from the ‘cues to care’ list by Nassauer (1995) that have low value for the Oosterspoorbaan garden. Besides the furniture for sitting, there are no architectural elements or fences in the garden. There are a few boxes for growing vegetables, as well as straight rows of bushes that also serve as fencing. In general, the garden design repeats the straight lines of the railroad tracks and it is perceived as man-made. However, there are no built structures that could enrich the look of the garden and make it more beautiful from the human cultural perspective.

Despite the fact that the difference in the architectural level between the two gardens is huge (‘5’ for Bikkershof, ‘2’ for Oosterspoor baan), no one from the Oosterspoorbaan neighbourhood complained about this. It might be because this aspect is not crucial compared to other important issues such as neatness. However, some of the residents from the Oosterspoorbaan area state that the best thing they like about the garden is space. Fences and hedges usually contradict the concept of "space". So, it can be that this aspect is not relevant particularly for this case or for the case of the Netherlands.

A lot about wildlife feeders and houses—the next cue to care of Nassauer (1995)—was said in the Bikkershof neighbourhood. Oosterspoorbaan residents did not mention anything about this. This might be because the Bikkershof garden has a variety of houses for animals, and people are aware and excited about such a possibility in the garden. Meanwhile, in the Oosterspoorbaan garden, there is only one insect hotel and there are not so many things to discuss. However, according to the residents of the Bikkershof neighbourhood, wildlife feeders and houses make a huge impact on the garden attractiveness. They make the garden appearance more interesting and also increase the variety of species which in turn enhances garden attractiveness, according to the studies of Lindemann-Matthies et al. (2010) and Lindemann-Matthies & Marty (2013). Therefore, wildlife feeders and houses is a characteristic of garden aesthetics.

The last aspect is flowering plants and trees. The observation was carried out in autumn that is why there were not so many flowering plants. However, the Bikkershof garden had a lot of green trees, bushes, and a variety of plants including flowering plants at this moment. Meanwhile, there were almost no blossoming plants in the Oosterspoorbaan garden at this time of the year. So, despite the fact that it was autumn, the Bikkershof garden made an impression of a diverse vivid garden compared to Oosterspoorbaan. As one of the respondents says: “I think the garden is nice but I don’t like it in winter.” So, ‘flowering plants and trees’ is an important component of a beautiful garden, especially in winter.

According to the results of this study, ‘neatness and order’, ‘furniture for sitting’, ‘wildlife feeders and houses’, and ‘flowering plants and trees’ are highly important for garden aesthetics. The number of points for other ‘cues to care’ are similar in the both gardens, so there is no conclusion for them. That is why gardens which differ in these characteristics should be chosen for further research. However, mowing, trimmed trees and structures in good repair probably can be considered as a part of ‘neatness and order’ which is important for making a garden attractive.

## GARDEN DESIGN

This study does not focus on determining the best garden design that all people can appreciate. Nevertheless, during the study two gardens with different styles were chosen to look as different as possible from each other. The first is the Bickershof, with a large number of trees, various plants, narrow winding paths, and a lot of decorative elements. The second, Oosterspoorbaan, has straight lines repeated along the historic rails, and includes mostly low plants and bushes.

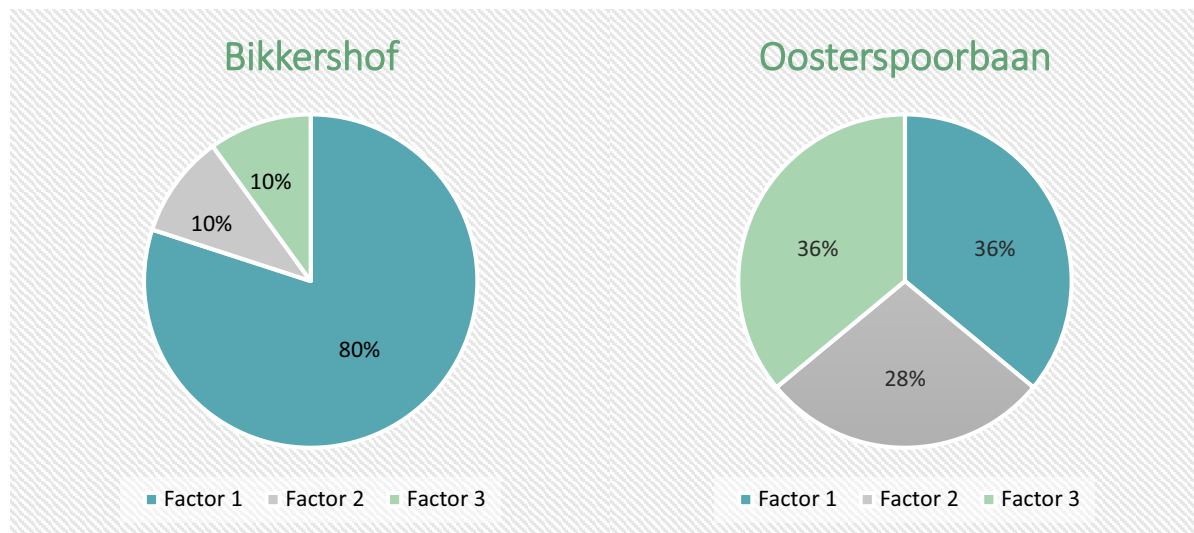


Figure 6.4. Distribution by factors in each of the neighbourhoods (Tatyana Dmitrieva, 2019).

According to the work of van den Berg & van Winsum-Westra (2010), all gardens can be divided into two groups: formal and informal. Formal gardens are determined by a manicured view, the rhythm and straight lines, which is reflected in the Oosterspoorbaan garden. The informal garden has a more natural appearance, which the Bickershof represents. Van den Berg & van Winsum-Westra (2010) state that the preference between these two types depends on Personal Need for Structure. As such, the opinions about these two gardens were the following: almost all residents (Factor 1) of Bickershof like the current garden design, and about a third of the Oosterspoorbaan residents (Factor 2) want to improve something in the garden appearance (see Figure 6.4).

On the one hand, it can be concluded that informal gardens are more preferable for residents of the Netherlands. For example, the inhabitants of the Bickershof neighbourhood find a high number of different plants, trees, and bushes in the garden to be attractive. On the other hand, some of the inhabitants of Oosterspoorbaan noticed that they would prefer to see a more vivid, wild garden with a high diversity of plants and trees, not like it is now —“straight, boring and easy” (according to one of the opinions of the residents). A variety of plants enriches the appearance of the garden and makes it more natural and interesting for observers. Moreover, according to the studies of Lindemann-Matthies et al.(2010), Lindemann-Matthies & Marty (2013), there is a direct relation between the number of species living or temporarily staying in the garden and its positive perception. In addition, other factors such as neatness and maintenance may have an influence on garden perception.

However, “the main advantage of the garden that it is green” is the most widespread opinion between participants. People suffer from a lack of green places in cities where they can be close to natural environment. This is why having a green area near home is valuable enough for many of them. Despite

the results obtained by Q methodology, the residents state that the style of a garden is not of great importance, though they do expect to see the landscape tidy, because maintenance is the most important issue, even if the design does not meet expectations.

According to many of the respondents, the design of a garden is not important. However, both of the gardens chosen for the case study have extraordinary view and design. The Bickershof and the Oosterspoorbaan gardens were planned with the help of professionals. Moreover, both of them have large area where additional facilities are located. So, it can be that people do not pay attention to the garden design because these two gardens already have high quality design. This fact can affect results the most because garden aesthetics is the main focus of this paper.

Nevertheless, respondents state that they are satisfied with having a well-groomed green area near their home. However, the best results in place attachment and design appreciation are shown in the Bickershof garden that represents the 'informal' type of a garden with a high variety of species. That is why the research concludes that 'diversity' of plants and trees is a criteria of urban garden aesthetics in addition to 'cues to care'.

## LOCATION

In the previous section, we concluded that there is a correlation between urban garden aesthetics and place attachment to the neighbourhood. However, there are two persons from the Bickershof neighbourhood who do not experience the same level of place attachment as others, though that garden has a high rating of aesthetics. Moreover, some people from the Oosterspoorbaan neighbourhood have a high level of place attachment through garden aesthetics even if it is not well-maintained. So, the correlation between garden aesthetics and place attachment is not so simple and direct. There are some additional factors that affect this relationship.

### Window view

As for the Bickershof garden, there are only two participants who have different opinion than other eight people. One of these two respondents from Bickershof belongs to the third group who experience only place attachment as affect, and the second one belongs to the 'detached but supporting' group who does not experience any place attachment at all. Moreover, the Q statements were not so relevant for both of them.

All of the residents of the Bickershof neighbourhood live at the same distance from the garden due to its location: in the courtyard of all the houses. However, these two respondents do not have an opportunity to see the garden through the window. One of the respondents has a high wall between the garden and the windows. Another participant lives in a room with a window to another side, opposite the garden. Moreover, due to the garden location in the courtyard, those two inhabitants do not see the garden even when they go outside the house, because the entrance doors are on the other side.

There is the same tendency in the Oosterspoorbaan neighbourhood. All people representing the 'attached and happy' factor live close to the garden. Almost all of them can observe it through the window, and all of them can see it when they go outside. People from the other two factors live further away, and cannot see the garden from their houses. Thus, one can say that a possibility to observe a garden through the window directly affects place attachment.

On the one hand, if people often see a garden, they remember in detail how it looks. Therefore, they have some meanings and associations with it. On the contrary, if inhabitants do not see the garden, and they cannot recall its appearance, they have no associations and feelings about it. For example, several respondents from the second and the third factors said that they did not remember exactly how the garden looked, and they wanted to look at it again to refresh their memory before the survey. So, it seems difficult to be attached to a garden whose appearance you do not remember.

On the other hand, if people see a garden through the window, they can perceive it as a part of their home. Moreover, a garden also represents the neighbourhood and community that take care of it. So, somehow a garden serves as a link from a neighbourhood to an individual from this perspective.

Another reason that people who see the garden through the window experience place attachment may be related to the fact that they usually see only one part of the garden. While people who have to visit the garden in order to see it, perceive it as a whole, or at least from different perspectives. Even the Bikkershof garden—with a high rating of aesthetics—has different parts that are not as well maintained. So, there is no conclusion about the reasons of ‘window view’ effect on place attachment, which is why additional research should be done.

Nevertheless, the visibility of a garden from the window plays a big role in place attachment to a neighbourhood through garden aesthetics. There is a possibility that a garden location can be an even more important characteristic than garden aesthetics. Thus, this research concludes that there is a correlation between garden aesthetics and place attachment, only if a garden can be observed through the window or from the entrance to a house.

## Distance

Another factor that could affect the results is the distance between a house and a garden. All residents of the Bikkershof neighbourhood live at the same distance, which is very close to the garden. Due to the scale of the Oosterspoorbaan garden and its location outside the living area, the inhabitants live varying distances from the garden.

On the one hand, all residents who live close to the Oosterspoorbaan garden belongs to the ‘attached and happy’ factor. On the other hand, all of them can see the garden through the window or out of the entrance door, which was discussed in the previous chapter. That is why it is difficult to say if there is a correlation between the distance to the garden and place attachment, or if it is a coincidence.

One of the respondents mentions that she lives far from the garden but she bikes through it every day. Therefore, the garden beauty is important for her even if she lives far from it and cannot see it through the window. However, she represents the second factor ‘detached but supporting’ and, according to the results, does not experience place attachment to the neighbourhood through garden aesthetics. However, there is only one respondent with such a situation, which is why it is still not clear if there is a correlation between the distance and place attachment or not.

## SPATIAL ORGANISATION AND SAFETY

During the interviews, some residents of the Oosterspoorbaan area mentioned the importance of garden safety. According to Kamphuis et al. (2010), there is a strong correlation between perceived

safety, aesthetics and social cohesion in the Netherlands. Therefore, the concept of safety, or at least perceived safety, can be important for defining an attractive urban garden.

The spatial organizations of the two gardens are different. The Bikkershof garden is situated in an enclosed space in the courtyard of the houses. While Oosterspoorbaan is located outside the residential area between several small neighbourhoods. So, the number of windows facing the first garden is high. Therefore, it is easy to see the garden from a house, and at the same time it is possible to see the locals from the garden, which creates a greater sense of safety. However, due to the lack of high vegetation and trees, the Oosterspoorbaan garden is much more visible from afar. So, spatial organization of the Bikkershof garden seems to be more preferable in terms of safety, especially as a place for children.

Another criteria of safety in the Bikkershof garden is that it has borders and gates, while Oosterspoorbaan has no clear boundaries, but rather an open space. In addition, the second garden is combined with a bike path, on which motorcycle transport is also used. Since it is important for many residents that they can use the garden as a space for small children walking and playing there, Bikkershof has a more preferential organization of the territory for this purpose.

There are not many studies done about the preference between open and closed spaces (Lewicka, 2011), and further research is needed to uncover relations between open and closed spaces to place attachment. What can be drawn from the Oosterspoorbaan and Bikkershof study, is that a garden with physical boundaries, such as walls, fences and gates, protects inner areas from cars. Moreover, when a garden is centrally located in a residential neighbourhood, more people are nearby at potential observers, which may increase perceived safety in the area. The space modifications improve garden attractiveness and increase place attachment to a neighbourhood.

## SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

For conducting this study, 21 persons with different kinds of socio-demographic characteristics were selected. However, they distributed into three groups without clear distinction (see Table 6.1). There are still some distinguishing features in each group but they do not look convincing and seem more like a coincidence.

*Table 6.1. Socio-demographic characteristics of respondents (Tatyana Dmitrieva, 2019).*

	FACTOR 1	FACTOR 2	FACTOR 3
<b>Length of residence</b>	Dominated by people with a long period of residence: more than 5 years	Mostly people with a very long period of residence: more than 7 years	Dominated by people with a short period of residence: less than 3 years
<b>Ownership</b>	Mostly homeowners	More homeowners than renters	More renters than owners
<b>Gender</b>	50% men, 50% women	More men	Mostly men
<b>Age</b>	All ages		Prevailed by respondents younger than 30 years; students
<b>Having children</b>	50% no children, 50% having children	More respondents with children	Mostly no children

Factor 1 has a lot in common with Factor 2. People representing these two factors predominantly homeowners with a long period of residence, men and women of different ages. So, no pattern can be distinguished from this data.

The third factor has distinctive characteristics at all levels: predominantly young men, renters with a short period of residence. However, the group size is small, as there are only five people belong to it. Moreover, not all of them can be characterised the same. Some of them live more than 5 years at this area and some are owners of houses. So again, no specific conclusions can be made from this data.

According to Lewicka (2011), the length of the residence has the highest influence on place attachment. That is why the 'detached but supporting' factor was expected to be represented by people with the shortest period of residence. However, the results show that this group predominantly consists of homeowners with the longest period of residence which is contrary to previous studies. The main reason that socio-demographic data is not consistent with an evidence from previous studies is a small number of participants in this research. That is why no correlations between place attachment and socio-demographic characteristics can be concluded from the results. In order to identify some patterns, more people should participate in the study and an additional quantitative study should be done.

## THE ROLE OF SPATIAL PLANNER

Urban garden is an important issue in spatial planning that has a variety of social and environmental benefits. These practices affect not only people who is involved in gardening but also non-participants living around the garden that is proved by this research. However, a spatial planner does not take a significant part in decision-making process for establishing an urban garden. Moreover, urban gardens usually are created and developed not in accordance with the land purpose but—with an aspiration of public initiatives. According to Mattijssen et al. (2017), the objectives of citizen initiatives do not always correspond to initial planning. That is why it is not clear how to consider an urban garden from a spatial planner perspective.

Even though an urban garden usually is not in line with spatial planning policies of a municipality, the case study of Pauleit et al. (2018) shows that such practices in 20 cities contribute significantly towards both environmental and social values. For example, according to the initial governmental plans, the plot of the Bickershof garden was intended to be a parking space. However, the purpose of the area was changed into a garden because of preferences and desires of the active residents of the neighbourhood. As a result of that initiative, ecological situation of the area was improved dramatically: air and land pollution were reduced, while biodiversity and connectivity were increased. Moreover, the residents of the neighbourhood noticed many social benefits caused by the garden. So, an urban garden is an interesting phenomenon that enriches a city with green infrastructure which also has an additional social aspect but do not always go in accordance with city zoning plans.

Besides the controversy in planning process, the impact of urban gardens created by citizen initiatives on ecological and socio-cultural issues is uncertain and needs further research (Buizer et al., 2016; van der Jagt et al., 2016). It is questioned if the bottom-up initiatives are positive for the city level compared to alternatives. For example, Fors et al. (2015) state that it is still disputable whether citizens participation improves green urban areas on city level or it only works locally. Such initiatives



usually propose some ideas corresponding to the needs and wishes of a neighbourhood or a group of people but do not take into account the demand of a whole city.

However, citizen initiatives do not always contradict to the initial purpose of the land use proposed by authorities. For example, the Oosterspoorbaan garden represents another case: the original plan — green cycling path—was not changed completely but it was supplemented by various of public initiatives. This was done through collaboration of the municipality and the local activists. So, working together, potential trade-offs between different preferences can be reached.

It is still uncertain how the communication between local initiatives and authorities can be improved and what kind of role can a spatial planner have in that process. However, according to the results obtained during this study, the role of a spatial planner is significant for an urban garden. Besides urban garden aesthetics, a location of a garden and its visibility through the window play a crucial role for increasing place attachment and extending the benefits from a small group of gardeners on all neighbours living nearby. Furthermore, choosing the right place is especially important in cities where the lack of available space requires multifunctionality (Hansen et al., 2019). So, urban gardens are important issues for spatial planners, but they are usually not involved because of the specificity of urban gardens.

## SUMMARY

In this chapter we discussed how aesthetics defined by ‘cues to care’ affects place attachment. The influence of the following characteristics on visual perception of urban garden was also described: garden style, location (the opportunity to observe the garden through the window and a distance in relation to the houses), and safety issues. All these characteristics affect place attachment to different extents. This research concludes that the level of maintenance and the opportunity to see a garden through the window affect place attachment to the neighbourhood through garden aesthetics the most. The socio-demographic characteristics of the respondents were also mentioned in the text. However, they did not influence the results since the number of people participating in the study was limited. Finally, the role of spatial planner for urban garden practices was discussed at the end of the chapter.



# CHAPTER 7:

# CONCLUSION



## CHAPTER 7: CONCLUSION

The aim of this thesis was to study the relationship between urban garden aesthetics and place attachment of people not involved in gardening. Two gardens with different levels of aesthetics defined by the 'cues to care' framework (Nassauer, 1995) were chosen for this case study. In addition to aesthetics, there were other criteria for the garden selection: style, size, distance and location in relation to houses.

The definition of place attachment (the main concept of this paper) includes emotional bonds between people and valuable places (Anton & Lawrence, 2016; Comstock et al., 2010; Scannell & Gifford, 2010). Since emotions are the basis of the term place attachment, the data obtained during the study was expected to represent subjective opinions and feelings. That is why Q Methodology—a method for organizing subjective opinions in objective and coherent structure—was chosen for this research.

The tripartite model of place attachment made by Scannell & Gifford (2010) was used for creating the Q statements and analysing the results. This framework was chosen for the study because it has three dimensions that accurately define place attachment, although this term varies in many papers. Most attention was paid to the Psychological process dimension for defining the Q set. That is why almost all statements represent one of the following elements: Affect, Cognition, or Behaviour.

By using the Q method, three factors—'happy and attached', 'detached but supporting' and 'reluctantly attached'—with different levels of place attachment were identified. Some additional findings significant to the topic were discovered during the study, such as the importance of diversity of plants and trees for urban garden aesthetics as well as the effect of garden visibility through the window on place attachment. Based on the results, which include the factors and other aspects, the next section will reveal the answers to the research questions which were posed in Chapter 1.

### SUB-QUESTIONS

#### **How do people assess the importance of urban garden aesthetics in their neighbourhood?**

Participants evaluate the importance of urban garden aesthetics differently. However, most of them consider garden aesthetics as a significant feature that contributes to their neighbourhoods positively. Three factors obtained from the Q methodology describe different viewpoints about garden aesthetics and its influence on the neighbourhood.

The 'attached and happy' factor—representing more than half of the participants—consists of people who highly value the importance of garden aesthetic on the neighbourhood because they experience many benefits from the garden view. For example, the opportunity to observe the beautiful, natural environment on a daily basis, closeness to nature and relaxation are the most valuable benefits of garden aesthetics that were mentioned during the interviews. Moreover, some of the participants wish to see urban gardens in other neighbourhoods because they believe that the presence of an urban garden and its aesthetics will make a positive impact on all the residents.

The 'reluctantly attached' factor is defined by the people who find garden aesthetics important for the neighbourhood. Moreover, they believe that having a beautiful urban garden in the neighbour-

hood is one of the best solutions when compared to other options. They consider garden aesthetics important both for themselves and for the neighbourhood.

The 'detached but supporting' factor is characterized by people with an opposite opinion about garden aesthetics. They do not consider it as an important issue for the neighbourhood and they do not experience an emotional connection to the garden. However, they support this initiative because they see how important an urban garden is for other people who like it: people involved in gardening, visitors and neighbours. However, they mostly exclude themselves from the group of people who think that garden aesthetics is important.

The prevailing opinion about garden aesthetics is that it is an important issue because residents obtain a lot of benefits from such a natural site in the neighbourhood. However, there is a small group of people who do not think that garden aesthetics is valuable for them personally.

### What attributes of place attachment are determined by residents of a neighbourhood who are not involved in gardening?

This study discovered three factors that experience different attributes of place attachment. Table 7.1 shows these attributes as well as specific characteristics of each factor.

*Table 7.1. Attributes of place attachment and other aspects of three factors (Tatyana Dmitrieva, 2019).*

	FACTOR 1	FACTOR 2	FACTOR 3
% of all participants	57%	19%	24%
Attributes of place attachment through garden aesthetics	Process (with prevalence of Affect and Cognition), Place and Person dimensions	No place attachment through garden aesthetics	Affect of Process dimension. Collective and Social attributes are more important than individual
Importance of garden aesthetics	Highly important	Not important	Important
Assessment of garden aesthetics	They like garden aesthetics	They do not like the design and maintenance	They appreciate the design but do not like maintenance
Location of the houses	Close to the garden	Further than Factor 1 or at the same distance	At a different distance
'Window view'	Almost all can observe the garden through the window, and all can see it from the entrance to the house	No one sees the garden through the window or from the entrance	No one sees the garden through the window or from the entrance

According to Table 7.1, most respondents (57%) experience place attachments on all three dimensions of the tripartite model—Process, Place and Person. Further, 24% of participants experience place attachment only on the Affect level of the Process dimension while the remaining participants do not experience place attachment through garden aesthetics.

### **What kind of visual characteristics influence aesthetics of an urban garden?**

According to the results of this study, the following ‘cues to care’ show their high importance for garden aesthetics: **‘neatness and order’, ‘furniture for sitting’, ‘wildlife feeders and houses’ and ‘flowering plants and trees’**. In addition to these cues, **‘diversity’** of plants and trees is also an important criteria of urban garden aesthetics because most of people prefer to see a vivid garden with a high variety of plant species in the neighbourhood.

Some other factors that influence the perception of garden aesthetics were discovered during the study. **The opportunity to observe a garden through the window or from the main entrance** plays a crucial role in place attachment to a neighbourhood through garden aesthetics. There is a possibility that the opportunity to see a garden from a house can be even more important than visual characteristics of an urban garden.

Thus, this study concludes that there is a correlation between garden aesthetics and place attachment—only if a garden can be observed through the window or from the main entrance of a house. Other factors such as distance between a garden and houses as well as borders might affect the perception of garden aesthetics but further research would be needed in that regard.

## MAIN RESEARCH QUESTION

### **How does urban garden aesthetics affect place attachment of residents in a nearby neighbourhood who are not involved in gardening?**

Most of the people who are not involved in gardening experience place attachment to the neighbourhood through the aesthetics of a garden located nearby. According to the results of this study, more than a half of the residents experience high level of place attachment on all levels of the tripartite model. While 24% of the participants feel attachment only as Affect, the remaining participants are not affected by garden aesthetics—they do not consider it to be important for themselves and do not experience any place attachment through it. This study concludes that there is a correlation between the level of aesthetics and the level of place attachment which depends on several criteria.

The first criterion is the level of garden aesthetics expressed by maintenance and particularly by ‘cues to care’. This research revealed the following cues that influence the level of aesthetics of an urban garden: **‘neatness and order’, ‘furniture for sitting’, ‘wildlife feeders and houses’ and ‘flowering plants and trees’**.

The second criterion is the diversity of plants and trees. This factor does not belong to the ‘cues to care’ list but plays important role for the level of urban garden aesthetics. Even if people appreciate a green, well maintained area near the house, they still prefer to observe different kinds of trees, bushes and other plant that positively affect the level of aesthetics.

The third criterion is a garden location in relation to houses—in particular the opportunity to observe a garden through a window or from the main entrance. The study shows that a garden with the high value of aesthetics has little or no effect on place attachment if it is not visible through a window or from the entrance.



People experience a high level of place attachment to the neighbourhood through urban garden aesthetics if a garden meets all three criteria described above. A low level or lack of place attachment will be observed in the absence of any of these criteria.

## ACADEMIC RELEVANCE

According to Lindemann-Matthies & Brieger (2016) and Morckel (2015), the number of studies about the aesthetic value of urban gardens for people and neighbourhoods are limited because most research papers are focused on the social benefits for people involved in gardening and food consumption (Schram-Bijkerk et al., 2018).

This research enriched existing knowledge about the effects of urban garden aesthetics on place attachment in the case of The Netherlands. Moreover, while most of the previous papers are focused on participants of urban gardens, this study pays particular attention to people who are not involved in gardening. In addition to the insufficiently explored topic about aesthetics, this is the most important difference from most of the current research.

Besides, this study provides a part of an answer to broader question about the influence of urban garden aesthetics on the social cohesion of non-participants within a neighbourhood. The social cohesion concept includes five domains, one of which is place attachment (Forrest & Kearns, 2001).

That is why, by answering the main question of this paper, we studied the link between aesthetics and one of the five domains of social cohesion. In order to analyse the relationship between urban garden aesthetics and social cohesion, the effects on other four domains should be studied.

## SOCIAL RELEVANCE

There are three reasons why the objective of this paper is relevant and important for society. The first and the most crucial reason is that the positive influence of urban gardens can be extended from a limited number of gardeners to all people in a neighbourhood. If an urban garden includes the visual and spatial characteristics that were found during this research then place attachment and all other related benefits will be extended to people who are not involved in gardening.

These benefits include quality of life; health improvement—both psychological and physical (Tartaglia, 2012); perceived safety (Gorham et al., 2009); well-being; comfort and other positive feelings obtained from the environment that people are attached to (Scannell & Gifford, 2017). Non-participants can also experience feeling of fitting or belongingness to the community and good relationships with other people in the neighbourhood (Scannell & Gifford, 2017) as positive effects of social cohesion.

The second reason is that these large number of benefits affecting not only a few gardeners, but the whole neighbourhood, can serve as justification for the use of land for gardening purposes. It is important for gardeners because land is usually provided to them temporarily. This uncertainty about the land tenure affects the enthusiasm of participants (Gregory et al., 2016), the amount of time and effort they devote for gardening, quality of garden aesthetics, and finally decrease the positive effects of an urban garden for gardeners and for all other people.

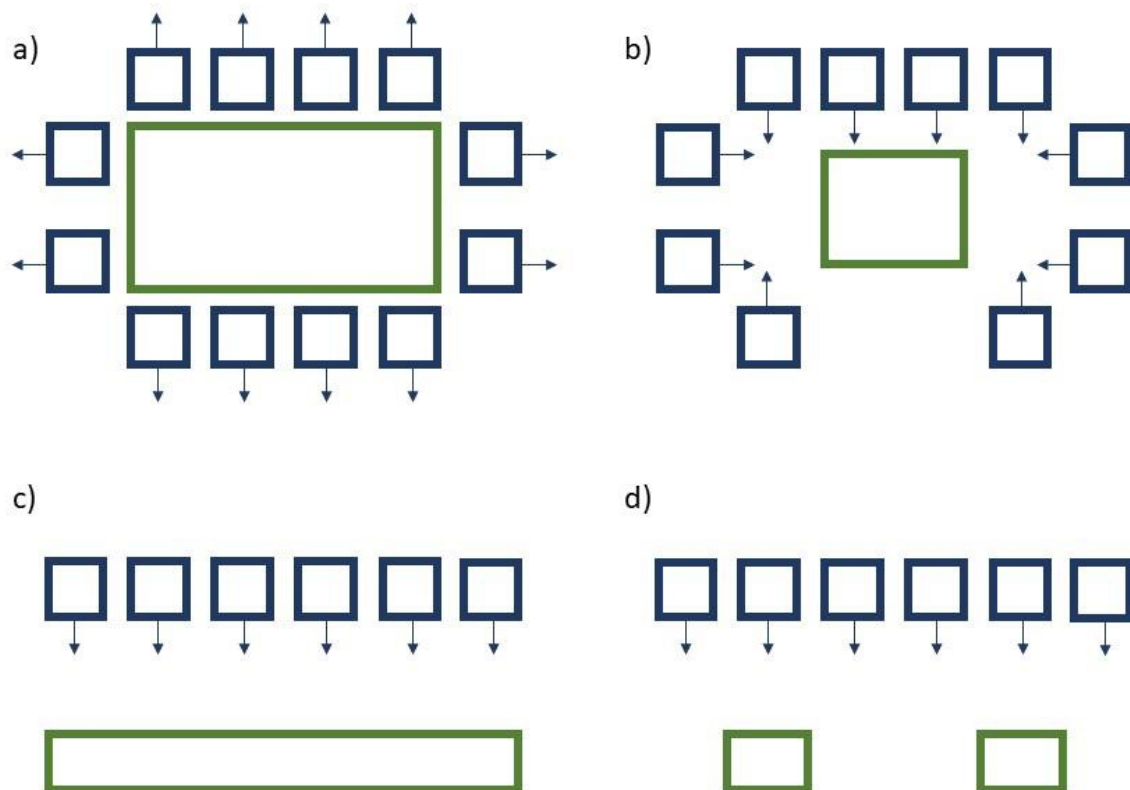
The third reason is that a garden organised according to the characteristics that were found in this study increases the attractiveness of a particular area for buying a house. This research did not study

the effect of aesthetics on housing prices, but according to some respondents, urban garden aesthetics enhanced the value of the houses located near the garden. It is noted that a well-organized garden can improve social cohesion between neighbours and create a positive atmosphere, which in turn affects the attractiveness of a living area.

## PRACTICAL APPLICATIONS OF RESULTS

This study revealed several visual and spatial characteristics of urban gardens that positively affect place attachment of people who are not involved in gardening. Practical applications of the results that could be implemented are the following:

- The list of the visual characteristics of an urban garden that should be taken into account during the planning stage as well as a guidance for maintenance. 'Neatness and order', 'furniture for sitting', 'wildlife feeders and houses' and 'flowering plants and trees' —five 'cues to care' that should be on this list.
- 'Diversity' of plants, bushes and trees should be considered as a highly recommended aspect for an urban garden design.
- Urban gardens should be observed through the window or from the main entrance of houses (see Figure 7.1 illustrating four possible locations).



*The arrows indicate the main entrances.*

*Figure 7.1. Possible locations of an urban garden (Tatyana Dmitrieva, 2019).*

Figure 7.1. illustrates four possible locations of the urban garden in relation to the houses. The gardens located at these places can be observed through the window or from the main entrance. These four

options represent the gardens of different sizes, which is important for planning in conditions where there is a shortage of land available.

## RECOMMENDATIONS FOR FUTURE RESEARCH

While the visual characteristics are still can be considered as subjective, the visibility of a garden through the window or from the main entrance is easily understandable and objective. However, there are still a lot of options of garden location. Different combinations of the following characteristics are recommended for the study:

- Distance between a garden and a house,
- Type of the room from which a garden is visible, and
- How easily (at what angle) a garden can be seen through a window.

The tripartite model and Q methodology can be applied for the future research. Both of them were relevant and worked well in this study which is why it is recommended to use them again.

There is a possibility that the influence of the garden location on place attachment is higher, or more significant, than the influence of garden aesthetics. That is why it has been recommended to study the relationship between the garden location and place attachment as a first step.

Finally, since this study revealed the relationship between aesthetics and one of the five domains of social cohesion, the impact of aesthetics on other four domains is recommended for the future research. These four domains are 'Common values and a civic culture', 'Social order and social control', 'Social solidarity and reductions in wealth disparities' and 'Social networks and social capital'. It is also recommended that the Q methodology can be used to study these four relationships.

The theories for the future research should be chosen individually for each of the domains. After the effect of aesthetics on each of the domains is studied, it will be possible to make a final conclusion about the complete relationship between aesthetics and social cohesion.



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## SUMMARY

Due to rapid urbanization, people experience problems with social integration, and there is a decline in social cohesion. Urban gardens are proposed as a measure for increasing social cohesion of people who participate in gardening. Additionally, there are many other positive effects on gardeners such as increased physical activity, health, and well-being, fatigue reduction, relaxation, recreation, and reconnection to nature. However, only a limited number of people can take part in urban gardening and receive all these benefits because the amount of land is not sufficient for everyone. So, the question is how the benefits of an urban garden such as social cohesion and others can be extended to all residents of a neighbourhood.

Garden aesthetics affect all people living in the area: they may not be engaged in gardening, they may also not participate in social events and meetings linked to the urban garden, but they definitely can see a garden every day and have some opinions about it. However, there is a lack of research that studies these effects. Thus, the main goal of this paper was to study the impact of urban garden aesthetics on place attachment of non-participants.

The tripartite model was used to develop statements for use in the Q methodology. Using a list of 'cues to care' from Nassauer (1995), two gardens displaying different levels of care were chosen. The Q methodology was used to solicit the opinions of residents who live near the gardens but are not involved in the gardening, regarding the influence of garden aesthetics on place attachment. After the Q method was applied, the interviews were conducted in order to figure out what opinions people have about garden aesthetics and specifically about maintenance of a garden. The list of 'cues to care' was used for these interviews. The interviews serve to find out what signs of care are the most important for people. A secondary purpose was to determine whether the 'cues to care' framework is relevant and applicable in the Netherlands, and to what extent. The results obtained during the interviews and the Q procedure were analysed according to the tripartite model, and the level of place attachment in relation to each garden was derived. Finally, the correlation between garden aesthetics, measured by 'cues to care', and place attachment was established.

This study concludes that there is a relationship between urban garden aesthetics and place attachment which depends on three criteria. The first criterion is the level of garden aesthetics expressed by maintenance, and particularly by five 'cues to care': 'neatness and order', 'furniture for sitting', 'wildlife feeders and houses', and 'flowering plants and trees'. The second criterion is diversity of plants and trees. The third criterion is the opportunity to observe a garden through the window or from the main entrance.



## ANNEX

### Q STATEMENTS (ENGLISH VERSION)

1. I'm impressed with the effort, time and money that people put into the garden to make it look beautiful.
2. People walking by the garden get a sense of something really nice happening in the neighbourhood.
3. When I look at the garden I always get upset because it spoils the appearance of the neighbourhood.
4. The garden is a visible public place that expresses a sense of beauty with the community.
5. I enjoy visiting the garden more than any other sites in my city.
6. If the garden looked attractive, maybe I would be positive about it.
7. The garden is valuable because it has attractive or pleasing landscape.
8. The beauty of the garden in my neighbourhood says a lot about who I am.
9. The garden is not my property that is why I don't pay any attention to its appearance.
10. The beauty of the garden in my neighbourhood means a lot to me.
11. This garden looks like a place I had in my childhood that makes me feel more like myself.
12. The beauty of the garden makes my neighbourhood unique and distinct from others.
13. Other functions of the garden (e.g. food production, meeting place) are more valuable for me than the level of its beauty.
14. I feel that the garden is a part of me and my neighbourhood.
15. The presence of the garden gives me the opportunity to be closer to nature and enjoy its beauty.
16. I think that the beauty of the garden has increased the value (price) of houses in my neighbourhood.
17. Many of my friends/family prefer the garden in the neighbourhood over other sites because it's beautiful.
18. I live too far from the garden that is why I don't feel any sentiments to its appearance.
19. The appearance of the garden shows that people in the neighbourhood share the same/similar values.
20. I think that my neighbourhood makes a great impact to the beauty of Utrecht by the garden aesthetics.
21. I don't want to be a part of the garden because it looks ugly.
22. The garden appearance makes our neighbourhood very welcoming.
23. I would feel less attached to my neighbourhood if the garden was ugly and messy.
24. Looking at the garden can help me to escape from daily stressors.
25. The appearance of the garden has increased the attractiveness of my neighbourhood.
26. The beauty of the garden makes me proud of my neighbourhood.
27. Beautiful garden is one of the reasons why I would not like to move out of here.
28. I began to pay more attention to aesthetic maintenance of my neighbourhood because of the garden beauty.
29. I get more relaxed when looking at the beautiful garden.

30. The garden aesthetics show the participants values but not mine.
31. I don't like the garden aesthetics in my neighbourhood because the garden should be organized in another way.
32. The garden is a public portrait of my neighbourhood.
33. The garden is beautiful but it should be in another place.
34. I'm happy to have an opportunity for looking at such a beautiful garden every day.
35. I like the idea of the garden but the design is very disappointing.
36. The garden looks beautiful during very short period of time (e.g. summer) and the rest of the year it spoils the beauty of my neighbourhood.
37. I think that the behaviour of the neighbours has become more positive, since we have such a beautiful place (garden).
38. I feel more attached to the neighbourhood since we have the beautiful garden in it.
39. I don't support the idea of having the garden in my neighbourhood—there are many other better options.
40. The garden is one of the best solution for having a beautiful natural site in my neighbourhood.
41. Looking at the beauty of the garden, many pleasant memories arise in my head.
42. A garden can be beautiful if someone maintains it properly.



## Q STATEMENTS (DUTCH VERSION)

1. Ik ben onder de indruk van de moeite, tijd en geld die mensen in de tuin stoppen om er iets moois van te maken.
2. Mensen die langs de tuin lopen, voelen dat het iets goeds toevoegt aan de buurt.
3. Als ik naar de tuin kijk, word ik altijd boos omdat het de uitstraling van de buurt bederft.
4. De tuin is een goed zichtbare plaats die een gevoel van schoonheid uitstraalt voor de gemeenschap.
5. Ik geniet meer van het bezoeken van de tuin dan van andere plekken in mijn stad.
6. Als de tuin er aantrekkelijker uit zou zien, dan zou ik er misschien positief over zijn.
7. De tuin is waardevol omdat het een aangenaam landschap heeft.
8. De mooie uitstraling van de tuin in mijn buurt zegt veel over wie ik ben.
9. Deze tuin is niet mijn eigendom waardoor ik geen aandacht besteed aan hoe het er uit ziet.
10. De mooie uitstraling van de tuin in mijn buurt betekent veel voor me.
11. Deze tuin herinnert mij aan een plek uit mijn jeugd waardoor ik me meer mezelf voel.
12. De mooie uitstraling van de tuin maakt mijn buurt uniek en anders dan andere buurten.
13. Andere functies van de tuin (bv. voedsel-productie, ontmoeting-splek) zijn meer waardevol voor mij dan hoe mooi het er uit ziet.
14. Het voelt alsof de tuin een deel van mij en van mijn buurt is.
15. De aanwezigheid van de tuin geeft mij de kans om dichterbij de natuur te zijn en om te genieten van de schoonheid.
16. Ik denk dat de schoonheid van de tuin de prijs van de huizen in de buurt verhoogd.
17. Veel van mijn vrienden/familie hebben een voorkeur voor de tuin ten opzichte van andere plekken omdat de tuin zo mooi is.
18. Ik geef niet om het uiterlijk van de tuin omdat ik te ver weg woon van de tuin.
19. Het uiterlijk van de tuin laat zien dat de mensen uit de buurt dezelfde waarden delen.
20. Ik denk dat mijn buurt een grote impact heeft op de schoonheid van Utrecht door het uiterlijk van de tuin.
21. Ik wil niet bijdragen aan de tuin want het ziet er lelijk uit.
22. De groene uitstraling maakt de buurt uitnodigend.
23. Ik zou me minder betrokken voelen bij mijn buurt als de tuin lelijk en slecht onderhouden was.
24. De tuin helpt me om aan dagelijkse stress ontsnappen.
25. Het uiterlijk van de tuin heeft de wijk aantrekkelijker gemaakt.
26. De mooie tuin maakt me trots op mijn buurt.
27. Een mooie tuin is een van de redenen waarom ik niet zou willen verhuizen.
28. Ik kreeg meer oog voor goed onderhoud in de buurt door de schoonheid van de tuin.
29. Kijken naar de tuin brengt me rust.
30. De esthetiek van de tuin weerspiegelt de waarden van de deelnemers, maar niet die van mij.
31. De esthetiek van de tuin in mijn buurt bevalt me niet, omdat de tuin op een andere manier georganiseerd zou moeten worden.
32. De tuin is een portret voor mijn buurt.
33. De tuin is prachtig, maar het zou ergens anders geplaatst moeten worden.
34. Ik ben blij met de mogelijkheid om elke dag naar zo'n mooie tuin te kunnen kijken.

35. Het idee van de tuin bevalt mij, maar het ontwerp is erg teleurstellend.
36. De tuin ziet er prachtig uit gedurende een korte periode (bijvoorbeeld in de zomer), maar de rest van het jaar vertroebelt het de schoonheid van mijn buurt.
37. Ik denk dat het gedrag van de burens is verbeterd sinds we zo'n mooie plek (de tuin) hebben.
38. Ik voel me meer verbonden met de buurt sinds we zo'n mooie tuin erin hebben.
39. Ik steun het idee van een tuin in mijn buurt niet—er zijn meerdere betere opties beschikbaar.
40. De tuin is één van de beste opties voor het hebben van mooie natuur in mijn buurt.
41. Kijkend naar de schoonheid van de tuin komen vele aangename herinneringen naar boven.
42. Een tuin kan prachtig zijn, mits iemand het goed onderhoudt.



