The influence of the environment on behaviour

Comparing two parts of Utrecht's inner-city

Universiteit Utrecht

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"Suddenly I found
that I'd lost my way in this city
The streets and the thousands of colours
all bleed into one"

Oasis - 2005

Masterthesis Urban Geography

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PREFACE

Sitting in one of the university's many computer rooms in the inner city of Utrecht, while preparations of this year's grand depart of the Tour de France, are in full swing, it is clear that city boosterism is still very relevant. Hordes of tourists pass by the window, all looking for the hot spots in Utrecht. What attracts them in Utrecht, except for one of the largest sporting events in Europe? Is it the city's historic character, that locals also seem to enjoy very much? Or is this just an irrelevant background for the city? This research will explore two different parts of the inner city of Utrecht and try to answer questions about the relationship between physical and non-physical environment, and behaviour of pedestrians in that area. Utrecht forms an excellent city for this research, since modern and historical are situated in proximity of each other and even seem to blend into each other.

I would like to thank the respondents that took the time to fill in a survey for this thesis, as well as the other visitors of the Mariaplaats, Zadelstraat, Vredenburgplein and Achter Clarenburg for making these areas such an interesting case.
Furthermore, I would like to thank Dick Ettema for supervising my progress and helping out where necessary. I would also like to thank my friends and family for their support, as well as fellow students that made me feel at home at the university and providing me with tips when needed, and joining me on some well-deserved coffee and lunch breaks.

I hope you, as reader, find this report enjoyable and informative.

Fabian Kreulen, Utrecht, 3 July 2015

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SUMMARY

This research explores the relationship between two different inner-city environments and behaviour of visitors in those environments. Scientific literature shows that especially the quality of an environment has an influence on activities taking place, as well as more obvious factors like street furniture. Social factors also play an important role in the way people move about in spaces.

Several types of behaviour by pedestrians. Self-evident behaviour like standing still or sitting down, as well as more subtle behaviour, not seldom led by different motives, that are also influenced by the direct environment.

In case of the two areas Vredenburgplein/Achter Clarenburg and Mariaplaats/Zadelstraat, surveys and observations showed that an area that is appreciated more, evokes more behaviour like standing still, looking around, and windowshopping. Pedestrians also tend to slow down more in those areas. Motives for visiting are not influenced by direct environment. Someone who is in an inner city to shop for fun, for example, will visit a shopping street no matter the quality of the environment. That visitor will just show slightly different behaviour.

1. INTRODUCTION

1.1 Motive

According to a report made by the WPM Groep (2011), the function of Dutch inner cities is under threat, or at least changing. Over the last years, city centres attracted less visitors, meaning less added value for the centre as a location for stores. The article argues that these changes can not only be explained through measurable indicators like the amount and diversity of stores, the amount of cafés and restaurants and the amount of inhabitants of the city. Nowadays, subjective factors of the 'experience' of the city are becoming more important. Important factors in that respect are accessibility, cultural and other leisure services, signage, architecture and atmosphere within the city centre. Figure 1 shows how the willingness to buy (blue line) has been declining while rent prices for stores in inner cities (pink for smaller cities and green for bigger cities) has still been increasing.
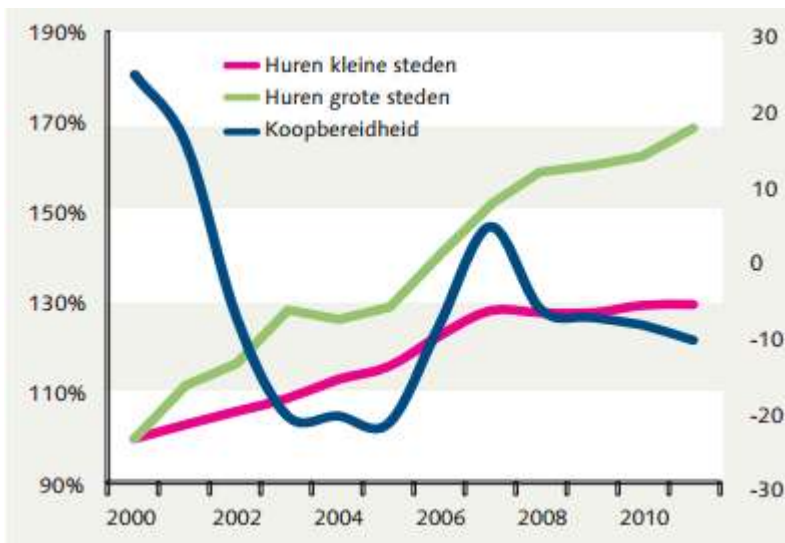

Figure 1.1: Willingness to buy compared with rent prices of stores, source: WPM Groep (2011)

The decrease in willingness to buy has accounted for a rise in vacancy of stores in Dutch inner cities. Between 2004 and 2014, the amount of vacancy in Dutch inner cities rose from eight percent to ten percent (Evers e.a., 2014, p. 9).

More recent trends that constituted to the increase of pressure on the functions of inner cities are the rise of internet shopping, the decreasing amount of people on the streets in inner cities, the decrease in efficiency of stores (profit per square meter) and less security for (small) store owners that the job of managing the store will be taken over (Evers e.a., 2014, p. 22).

The backdrop of these smaller trends is the fact that cities in general have changed over the past decades. Where they were places of production throughout the twentieth century, the post-industrial society made sure other topics were high on the agenda of urban policymakers. Cities have become places for consumption and, especially in Europe, this consumption has historically manifested itself most in city centres. Especially in North America and Western Europe, countries are no longer dependent on their industrial capacities, but changed towards societies dominated by the tertiary sector (Savitch e.a., 2002, p. 1).

The change of city centres from places of production to places of consumption has brought forward a competition between cities in the Western world (Duffy, 1995). Cities put forward certain images to attract visitors that spend time and, perhaps more importantly, money in their centre. Due to globalisation and the spreading of brands and stores within or even between countries has resulted in a convergence of cities. Cities are looking more alike, while urban policy makers try to sell their city and attract visitors. This constitutes for a kind of paradox in which cities are trying to stay recognisable for visitors, while at the same time trying to offer a sort of uniqueness to attract visitors (Spierings, 2009).

Furthermore, the decline of the industrial society and the related downfall of production of standardised goods has resulted in a rise of the 'experience economy'. Because of the rise of customised services to clients and the increasing need for personal experiences, the success of a product (or in this case an inner city) depends on the experience that is created for the costumer (Lorentzen, 2009, p. 830). Therefore this research will explore the behaviour of visitors in a contemporary city, and see how peoples' attitudes and behaviour relate to the different inner city environments they are in.

1.2 Relevance

The relevance of this research can be considered in three ways. There is a scientific relevance in relation to earlier studies on inner cities and their visitors, there is a relevance for society as a whole, and there is a policy relevance, since the implications of this study can be used by urban policymakers to adjust the environment of the inner city to better fit the experiences and behaviour of visitors.

1.2.1 Scientific relevance

This is not the first scientific research on inner cities and their visitors. The study of the environment of the inner city is also not a new phenomenon. A few works that can be considered classic works on the field of inner city research are by Lynch (1960) and Whyte (1988). These researches have paved the way for more detailed studies about the inner city and the behaviour and experiences of visitors.

European studies about the experience of inner cities have been carried out in for example Milton-Keynes (Degen e.a., 2008) Malmö (Kärrholm, 2009), East Central Europe (Nagy, 2001), Nijmegen (Spierings, 2013) and Maastricht (Kemperman e.a., 2009). Most of these researches focus especially on the retailing environments of the cities that were researched. One might say, due to the predominance of scientific work in that field, that the retail environment is the most important and also most researched aspect of inner cities in Europe. These are not rarely accompanied by quantitative research methods and models, since the volume of pedestrians has direct implications on the amount of potential customers for retailers (Monheim, 1998, p. 274). Especially retailing implications and strategies have predominated in this respect (Bitner, 1992; Nagy, 2001;Kärrholm, 2009). However, as already discussed in this chapter, more recent trends have made sure that this is not the only function anymore. Although it is still considered an important aspect, figure 1.1 has shown it is losing its importance.

Some studies in this field focus on the importance of 'static' things like urban design and architecture (Montgomery, 1998, Degen e.a., 2008; Warnaby, 2009), while others highlight less tangible matters like walking routes (Kemperman, 2009) and economic flows and links (Spierings, 2013). While these studies briefly touch upon the relation between experience, flows and built environment, these relations deserve more attention.

The studies mentioned in this paragraph mainly focus on one or more (inner) cities as case or example and tend to treat these cities as one research area. The differences *within* the inner city, however, seem to be mostly overlooked. The differences that arise between inner cities might however also be observed within an inner city themselves. For example, in Europe, it is not seldom that an inner city is a mix between historic architecture and newer, modern, buildings and narrow streets can be quickly followed by broader squares. This makes a historic inner city in Europe a place for many different experiences and could account for different behaviours to be observed relatively close to each other or even in the same place.

The visitors of inner cities themselves are predominantly approached from a touristic point of view (Kemperman, 2009; Apostolopoulou e.a., 2013; Park e.a., 2013). In researches like this, the visitors of inner cities are mainly seen as tourists, that therefore need to be attracted and have (almost) no knowledge about the inner city. However, not every visitor of an inner city is a tourist. Especially nowadays, inner cities also function as a meeting place, a place for work, and a place where people live and perhaps do their daily shopping. The abundance of different people and flows therefore makes it insufficient to view the inner city from a purely touristic point of view.

In conclusion, there is a gap in scientific literature in more than one way. Firstly, a great deal of inner city research focuses mainly on the retailing environment and strategies, using associated quantitative research and modelling methods. Furthermore, while static aspects of the built environment as well as non-static aspects like route choices and flows are in abundance, the mutual relationship of these aspects and their relationship with experience and behaviour in the inner city needs to be discussed more. Finally, the visitors of urban centres are more than tourists that need to be 'hooked' and shown the way in a city, something some researchers seem to forget.

This research tries to fill the gap discussed above by providing a more detailed observation of two, at first sight contrasting places within an historic inner city, and the reaction this evokes for the broad range of visitors in those places. The places themselves will be selected on different aspects of the built, as well as the social environment, to be able to explore the differences in types of visitors and their behaviour in relation to the environment.

1.2.2 Societal relevance

This research can be considered relevant for society as a whole, or at least for urban society. Not only on a neighbourhood level, but also for the visitors of these areas.
On a neighbourhood level, places can have a certain meaning for people, according to Mehta (2009, p. 59)

"it is the engagement between the places that have special meanings for the community, the elements of the behavioural environment (land uses and their management), and the elements of the physical setting (form and space characteristics) that creates a comfortable, pleasurable meaningful and therefore desirable environment for people on neighbourhood commercial streets."

On a visitor level, regarding functionality, the inner city is undergoing change, as already discussed in paragraph 1.1. One issue that might arise from this changing function is that certain areas for stores can become vacant. One vacant store is not necessarily a problem for society, but more vacancy could instigate a downward spiral of urban decay (Evers e.a., 2014, p. 14).

Thus, the different functions and meanings that an inner city can have for people can be seen as relevant for society in general. This research tries to get a grip on the different reactions visitors can have towards their environment. When this is better understood, the urban environment can be changed to fit the needs of different types of visitors and aid them to achieve certain goals that instigated the visit, whether these are leisure-driven or purely goal-oriented. In this respect, there is a certain task urban policymakers might have, an aspect that will be discussed in the next paragraph.

1.2.3 Policy relevance

Certain trends in visitor behaviour in inner cities and retail strategies has made sure inner cities have changed. Urban policymakers struggle to keep up with these trends, since there is a constant pressure to innovate and stay ahead of other cities (Spierings, 2009, p.147). Innovating to attract visitors is not the only task of urban policymakers. Making the visit as pleasurable as possible to make visitors stay and come back might be equally important. In this respect it is important that the functions and experience that an inner city offers are in accordance with what people want and what they like. This research will try to map different visitors at two different areas of the inner city of Utrecht, but the implications of this study are not limited to Utrecht only. When it is more clear what different 'behaviour settings' (Mehta, 2009) might mean for the behaviour in inner cities, this will not only be beneficial for the areas studied, but also for other inner cities, at least in the Netherlands. This aspect is mainly named with regards to the vacancy rates already mentioned (Evers e.a., 2014).

1.3 Research goals

The aim of this research is to identify in which ways visitors of certain parts of a city centre and which factors, positive of negative, influence this behaviour. A second goal is to determine how these results differ between different uses and users of the city centre, so that policymakers can adjust the

built environment and image of their city centres to those users and usages. More specifically, this research will try to explore the way in which visitors react to the experience economy, and all its components. This will be achieved by observing two areas in an inner city, one which is argued does not contain characteristics of the experience economy, and one area that does offer a unique and pleasurable experience. In this way, light can be shined upon the different ways in which people might react to different aspects of the environment concerning recent trends in inner city studies and management.

The question that is central in this thesis is therefore:
What is the relationship between the environment and the behaviour in different parts of the inner city of Utrecht?

1. **What are the physical and social characteristics of the areas of the inner city in which the research takes place?**
2. **What are the motives for visiting the inner city and how does this differ between the different parts of the inner city, with regards to these different characteristics?**
3. **Which behaviour of visitors can be observed and how does this differ between the different parts of the inner city, with regards to these different characteristics?**

1.4 Thesis organisation

After this introduction chapter, a theoretical framework for this research will follow. This framework is twofold. The first part, chapter two, will discuss the theoretical implications of the research from the point of the city and its environment and implications. How have cities changed, what do cities consist of and how is this relevant for this research? The second part of the framework, chapter three, will form the theoretical foundation from the viewpoint of the user, in other words, the visitors of the inner city. What moves them? What do they do and why do they do it?

The fourth chapter will describe the research methods used as well as the research areas. In other words, this chapter will illustrate how and where data is collected. The way this data is processed will also be explained in this chapter, as well as the expectations of the research and the way this data is analysed.

In chapter five the results will be presented. Are the expectations put forward met? How do the research areas differ from each other in terms of data that was collected? Are these differences significant? This chapter will be used as a basis for the conclusions that are put forward in chapter six.

Chapter six will, alongside this general conclusion of the research, provide recommendations for policymakers as well as researchers. How can the insights put forward by this research be used by policymakers and what further research can be done, that builds on this research?

This report ends with the sources that were used during this research. The appendix of this report contains the observation schedule that was used, the survey that has been handed out and the execution and output of all the statistical tests that have been done using SPSS.

2. THE CITY

The urban centre, or downtown, with all its aspects, has been the subject in countless studies, from various disciplines. On the other hand, the users of these areas are also the subject of a number of researches. This chapter of the theoretical framework is written from the viewpoint of the city. First, a brief history will be given about the change from a modern city to a postmodern city. After that, the literature about the competition between cities that arose from that will be explored. Subsequently, the physical aspects of the city, including the aesthetic environment, will be discussed, followed by the social aspects of this environment. Chapter three will zoom in on the users of the city centres, their attitudes, behaviours and their experiences.

2.1 The changing urban landscape

This paragraph will briefly discuss how cities in general have changed throughout the twentieth century and after that. The modern city was characterised by Fordist production, meaning the system of mass production and consumption in developed economies during the period 1940-1960. This type of production brought with it a certain type of consumption in the modern city, characterised by the production of standardised goods. These goods could be sold to a large number of people relatively close to each other (Jayne, 2006). Fordist production and consumption patterns that correlated with it made sure that from a planning point of view, each district of the city had its own function and every activity was to be conducted at a certain place. This resulted in the material world to be predictable, frictionless and scheduled (Kärrholm, 2009, p. 424).

However, we are now in a period that has exceeded industrial capitalism (Savitch e.a., 2002, p. 1). The city which was, as described above, historically organised around *production*, is now characterised by *consumption*. The economy of the postmodern city is therefore less based on the production and consumption of goods, and more around the production and consumption of culture. The economy is becoming more symbolic in the sense that the attractiveness and style of the city is based around the projection of image (Jayne, 2006, p. 58). David Harvey (1989) conceptualizes the contemporary city as 'soft', as a series of stages on which individuals perform their own magic in a multiplicity of roles.

Production for and consumption of *the masses* was central to the idea of the modern city. However, in the postmodern city we have reached a new stage of consumerism. Consumption of the *individual* and the symbolic and aesthetic implications of this consumption is becoming more important. In other words, consumption has become increasingly more significant for its symbolic qualities than for its actual functional role (Jayne, 2006, p. 65-66). The postmodern city seems to have no rationality or recognisable shape. The built environment of this postmodern city is characterised by an attempt to refer to the emotions, experiences and a sense of place (Selby, 2004, p. 43-44). This sense of place,
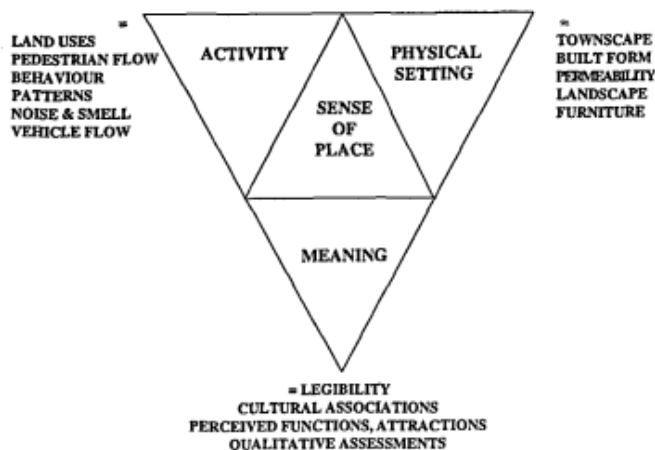

Figure 2.1: Three aspects of sense of place according to Punter (1991).

consists of three aspects according to a model made by Punter (1991), as seen in figure 1.2. Namely *activity, physical setting* and *meaning*.

This model shows that to attach a sense of place to a city, the physical setting of that place is not of the only importance. The activities and behaviour of people are also essential, as well as a certain meaning that is attached to that city. While this first part of the theoretical framework will mainly involve the physical setting and land uses, the second part of this framework will focus more on the user, and thus more on activities performed in the city and the meanings attached to that.

The issues of deindustrialisation of cities described above have, according to Harvey, led to an entrepreneurial stance towards urban development. This means that a general consensus emerged throughout the advanced capitalist world that urban government had to be much more innovative and entrepreneurial in creating advantages for the production of goods and services, improving its competitive position in terms of consumption and acquiring key financial and political functions (Harvey, 1989).

The changes mentioned, especially the need for cities to improve their position for consumption capital, have led to a certain competition between cities, an issue that will be discussed in the following paragraph.

2.2 Competitive cities – from marketing to branding

As mentioned in the previous paragraph, the shift from a modern to a postmodern city has its implications for urban policies. To put it briefly:

"The increasing entrepreneurialism of urban governance had made rebuilding, repackaging and rebranding the urban landscape a common priority. (...) Geared toward consumption rather than production, these settings are designed to provide a new economic infrastructure suited to the needs of a postindustrial economy: business services, entertainment and leisure facilities, and tourist attractions." (Knox, 2011, p. 168)

As a reaction to the growing competition between places and the globalisation of markets, the idea of city 'boosterism' arose. This boosterism was accepted as a management strategy for the public sector and used to attempt to create a distinctive place marketing approach (Karavatzis, 2005). Kovats (2013) mentions a gradual shift from place marketing to place branding when it comes to promoting a place. Where place marketing of the 1980's focused on the implication of marketing for urban development, more recently, place branding focuses on perceptions and images people have of the place.

The construction of the image of a place (in this case an inner city) can be analysed from two different perspectives, namely the insiders and the outsiders. For the insiders, for example residents of the city, sense of place is created through everyday experiences. For outsiders, city image is a lot more vague and abstract. Regarding these outsiders, it is more a question of using or creating certain images to construct positive connotations with cities, potentially influencing their decisions regarding investments, residential location or touristic visits (Kovats, 2013, p. p. 100).

In more detail, with cities looking more alike due to the forces of globalisation, differences between inner cities are created by city policymakers, to compete for consumption capital, or to put it more colloquially, to attract shoppers (Spierings, 2013, p. 44). In this respect there is a difference between 'home towns' and 'clone towns' (Knox, 2011, p. 166). Having a lot to do with the image of a city, clone towns are towns where independent stores like butchers and book shops have been replaced by standardised (global) retailers and fast-food chains, so that it can easily be mistaken for dozens of bland town centres across the country. A home town is a town with enough locally owned businesses to give it a distinctive character for the people living there as well as the people visiting. Ideally, cities want to create a home town feel, meaning they want to be unique and recognisable. However, they want to remain familiar to mobile shoppers, making them feel at home. This would mean that a centre

has to have a certain unique feel, but not be too dissimilar from others so shoppers don't feel at ease. This paradox implies an increasing need for city centres to be redeveloped and innovated to 'outsmart' other cities or at least keep up with them (Spierings, 2009, p. 147).

One way to promote and brand a city might be through flagship buildings (like museums or stadia) of major events (such as the Olympics). This form of 'hard-branding' of the city can however fail in the creation of a special identity, since it tends to trigger copy behaviour and 'me-too' strategies of other cities, eventually homogenising the urban landscape once again (Knox, 2011, p. 157). The design of buildings themselves can also be used as a way to promote a place and to create a certain image. Warnaby (2009, p. 289) mentions how urban character may be created by the variety and diversity of building types and architectural styles, creating a distinctive perception of place in the minds of visitors, thereby contributing to their overall experience.

2.3 Physical environment

This paragraph will discuss the physical environment of the inner city. This does not only entail the buildings and the streets, but also the division and overall layout of the city. Two influential writers in this field, are Jan Gehl and Kevin Lynch. Their overall divisions of the city are used as a point of departure for this paragraph, supplemented by some more detailed studies.

Jan Gehl (2011) divides the city in *places to walk, places to stand* and *places to sit*. This paragraph will discuss the implications this division has for the physical environment of the inner city.

2.3.1 Places to walk

Walking is more than a form of transportation, it is also a possibility for being present in the public environment. Later in this chapter (Paragraph 3.1.1), the different types of walking will be discussed. For now the physical implications of the walking environment will be covered, because as Gehl states, there are a number of demands walking imposes on the physical environment. A few matters are of importance in this respect. First of all, walking demands space. People need space to walk without being pushed or without having to manoeuvre too much. The dimensioning of streets is also important. By this Gehl (2011, p. 134) means that there is a certain 'acceptable density' of a street, constituting a certain ideal pedestrian flow.

Pavement and surface conditions of the streets are also of significance. People tend to avoid pavement types and surface conditions that are not suitable for walking. Walking is also a question of the distance one has to walk and the walking route. In terms of distance, there is a difference between physical walking distance (the length of a street) and experienced distance (the conditions of the street and quality of the route). With this in mind, long and straight pedestrian routes should be avoided while winding interrupted streets make pedestrian movement more interesting. This notion is however not supported by everyone. Kemperman e.a. (2009, p. 213) state that long straight lines that offer a long view are often appreciated by tourists. However, both visions show that the physical environment can have an influence on the (walking) experiences of visitors of the inner city. The last aspect of the physical environment in relation with walking that Gehl (2011, p. 144-145) mentions are differences in level. Since movements upwards or downwards require more physical effort, people try to avoid changing levels. This is why gradual short ascents and descents (through ramps, for example) are more preferable than long, steep stairways.

Walking however, is more than just a means of transportation, or a way of getting around. It is also an essential mode of experiencing urban space (Wunderlich, 2008, p. 126). The everyday practice of walking relates with the environment in several ways. While walking, someone is constantly in touch with the spatial environment and in particular with the ground. Walking is therefore a mode of experiencing urban space that nurses a sense of place and the experience of walking generates sensual interaction and social impressions. These things are seen as essential for the emergence of a sense of belonging (Wunderlich, 2008, p. 129-130).

2.3.2 Places to stand

Standing, Gehl argues, is less demanding on the physical environment than walking and also sitting. It is important to be able to stand in public spaces, but more important to *stay*. In this respect there is a difference between stopping for a moment, for example to wait on a red light, and standing for a longer time. People can stand still for a longer time to talk to each other and these activities can be seen everywhere, since they tend to develop in the places where people meet each other. When people stop to wait for somebody or something for a longer time, the problem might arise of where to stand. The preferred places to stay tend to be on the edges.

This *edge effect*, first mentioned by Derk de Jonge, describes the preference of people to stay at the edges of places and not at open places. This is because people tend to avoid being too exposed but still want to observe the place they are in. It also correlates to the fact that people can be only approached from the front and are not exposed on the backside. One might therefore argue that the edges are one of the most important facets of a public space, since activities tend to grow from the edge towards the middle (Gehl, 2011, p.149-150). This might mean that standing (and also walking, see the next paragraph) is an activity one might typically find on the edges of public spaces, and not in the middle of these places.

2.3.3 Places to sit

Sitting, like standing, is also generally concentrated and best performed at the edges of spaces. It is however, even more so than standing, considered as one of the most prominent aspects of (public) spaces, or like Gehl states:

"The existence of good opportunities for sitting paves the way for the numerous activities that are the prime attraction in public spaces (..). These activities are so vital to the quality of public spaces in a city or residential area that the availability or lack of good sitting opportunities must be considered an all-important factor in evaluating the quality of the public environment in a given area. To improve the quality of the outdoor environment in an area by simple means, it is almost always a good idea to create more and better opportunities for sitting". (Gehl, 2011, p. 155)

Another famous study researching the places where people sit is by William Whyte (1988). Whyte and his team observed how people used urban spaces, filming people using different plazas and parks in New York and analysing which people sat where during different times of the day and year. Looking at factors like the location of plazas, the amount of sunshine, the shape of spaces and the amount of space, there were no clear correlations with the amount of visitors. The conclusion of this project, was not surprisingly, that people sit where there are places to sit. More detailed observation were done concerning where people sit and how high seating areas must be (Whyte, 1988 in *The City Reader*, 2011, p. 510-517).

Gehl mentions several demands for favourable seating space. The placement of seating is important, but also the orientation and view of seating places and the type of seating. Two types are distinguished; primary seating, which encompasses the objects that are actually meant solely to sit on, like benches and chairs and secondary seating, like low walls, steps and stairways (Gehl, 2011, p. 157 – 162).

Mehta (2009) has found that seating on the street in the form of benches, chairs and other surfaces, had a strong interrelation with the liveliness of a place. Another interesting finding was that furniture placed to sit on was also used for other activities than sitting. People use these horizontal surfaces for reorganising belongings, placing stuff in and out of their bag and children use these surfaces to play around on (Mehta, 2009, p. 44-45).

2.3.4 Legibility of the city

Kevin Lynch elaborated on the city and its image in 1960 in his highly influential book *'The Image of the City'*. In it he sums up five elements that make up the physical forms in which the image of the city can be divided; paths, edges, districts, nodes and landmarks.

Paths, he argues, are the channels along which the observer moves, like streets, walkways or railroads. These are the predominant elements in their image. The second element, the *edges* are the boundaries between two phases, like for example railroad cuts, shores or walls. They can be seen as barriers that close one region of from the other but can also be seen as the lines along which two regions are joined together. Edge elements are important features for the organization of people in a city. *Districts* are medium-to-large sections of a city, where one can mentally enter 'inside of', that can be seen as having a common, identifying character. Most people tend to divide and structure a city in this way. *Nodes* are strategic points in a city, like junctions, convergences of paths or squares. Because they often are the epicentre of a district, they can be seen as cores. In certain cases they can be seen as the dominant feature of a city´s image. *Landmarks* are the final type of element Lynch puts forward. A landmark is a defined physical object, that can either be inside of the city centre, like a building or a sign, but can also be outside of the city but visible from within, like a mountain. These can be relied on by people who travel through the city as an identifiable character. (Lynch, 1960)

With this division, Lynch puts an emphasis on the *legibility* of the city. Like a book, a city should be easy to read and understand. A legible city is therefore a city that is easily readable and easy to comprehend because of a clear spatial structure and physical form. Accordingly, people can form a clear mental map or image of the city (Taylor, 2009), or as Lynch states:

 "We are continuously engaged in the attempt to organize our surroundings, to structure and identify them. (…) When reshaping cities it should be possible to give them a form which facilitates these organizing efforts rather than frustrates them (Lynch, 1960 in The City Reader, 2011, p. 509)."

The legibility of a city is not the only criterion of a city that is important for the quality of a city. Taylor (2009, p. 201) argues that the aesthetic environment is more important than the legibility of a city for the way in which the quality of that city is perceived.

2.4 Aesthetic environment

As was already mentioned in paragraph 2.2, the historic and architectural character of buildings can create a distinctive urban retail servicescape and in the process create character (Warnaby, 2009, p. 290). Therefore, though not solely therefore, it is of importance that cities are also considered from an aesthetic point of view. After all:

"When we are perceiving and enjoying (or not enjoying) a townscape aesthetically, we are perceiving it for its own sake, and for the interest and enjoyment (or lack of it) we find there, and not, for example as a means to orient ourselves or find our way around." (Taylor, 2009, p. 194)

City planners and professionals alike try to evoke a pleasurable "aesthetic response" in relation to the built environment. Aesthetic response is the way in which a person feels about the aesthetic environment and when it comes to evoking a pleasurable aesthetic response, three components are of importance: Pleasantness, excitement and calmness. Pleasantness is pure evaluation, while excitement and relaxation are mixtures of this evaluation and arousal/activity. Exciting places are more pleasant and evoke more arousal than boring places, and the same goes for relaxing places evoking more pleasantness and arousal than distressing places. Figure 2.2 shows how the built environment (in this case in the form of buildings) can influence aesthetic response. The model shows how things like cognition but also traits of the observers themselves can influence
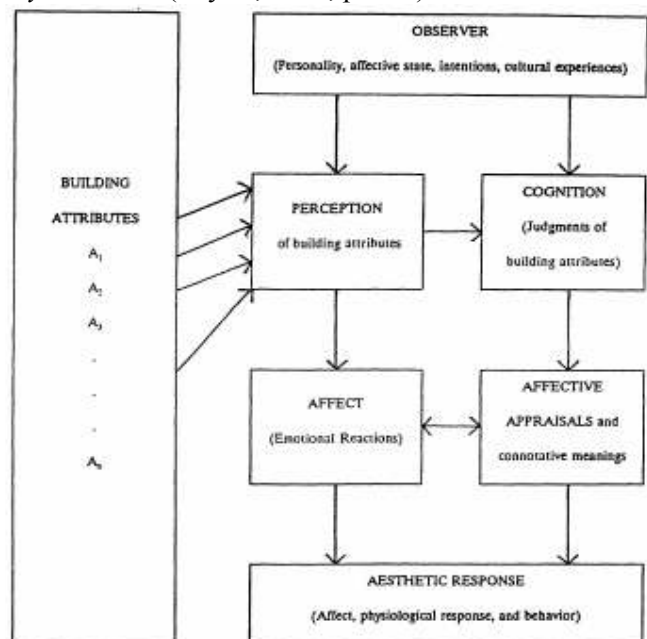
Figure 2.2: Influence of building attributes on aesthetic response, source: Nasar (1994)

how a building is aesthetically perceived.

There are two types of aesthetics that can be distinguished, namely formal aesthetics and symbolic aesthetics. Formal aesthetics does not take into account human experiences in the sense that it focuses more on general characteristics of the object, such as form, shape and colour. Symbolic aesthetics (for this research more relevant) focuses on the features of an object and the relationship with knowledge and experience of individuals. For example, individuals from different places or (sub)cultures develop different meanings and preferences, and therefore evaluate an object differently in terms of aesthetics. (Nasar, 1994)

These preferences of individuals have been exploited by city planners and architects to provide favourable aesthetic locations for people. There is a growing importance on urban design, especially now that cities are changing (see paragraph 2.1) (Degen e.a., 2008). But why is it that the way a city looks and is perceived is such an important aspect of city planning? Williams (1954), mentions three objectives that could justify the effort to understand and improve the way a city is aesthetically perceived.

The first, he argues, is to make sure that people in the city can comprehend their environment and orient themselves. This has strong parallels with Lynch's legibility of the city mentioned above. With regards to this first objective, Williams (1954, p. 96) states:

"The city planner, and others concerned with the future physical form of the city, can share their understanding of its underlying structure with all the citizens only if this underlying structure can be clarified throughout the city."

The second objective is to visually emphasise socially, culturally and economically important functions in the city. In other words, one function of aesthetics in the city is to support and highlight the most important functions in a city. In the case of a shopping street, for example, this could mean that the way environment looks, should make clear that this is a shopping street and that this economic function of the city is fully supported. Finally, the third function is to simulate civic consciousness and pride. By this, Williams means that emphasis on practicality of city planning overlooks the importance of aesthetics as a basis for civic pride and support. (Williams, 1954, p. 96)

The aesthetic quality of cities is thus more than just the way a city looks and is (subjectively) perceived by others. The perception of the beauty of cities is however an important aspect and the aspect that is mostly touched upon by researchers and policymakers. Degen e.a. (2008) mentions how a city of surfaces is produced, primarily focusing on a visual effect. Added to this is the notion of "aestheticisation of everyday life" where *"inhabitants of urban spaces are a submissive audience of the spectacle, anesthetised by aestheticisation and dulled by design"* (Degen, e.a., 2008, p. 1908).

2.5 Social environment
A city is more than its physical environment. The people that make up a city, can be considered just as important, or even more important, than the physical aspects of the city. This paragraph will describe why and how certain social aspects of a place can influence experience and behaviour in that place.

2.5.1 Seeing, hearing and talking
Gehl's (2011) division of the social environment of a city is also threefold. It is important to acknowledge, however, that this division does not stand on itself and is in relation with the built environment discussed above. The three social aspects of the city that Gehl elaborates on are *seeing, hearing* and *talking*.

Seeing is considered a question of distance, field of vision and light. In other words, for a pleasurable experience area in terms of seeing, the area should not be too big, have a good view and adequate lightning on the objects to be seen. (Gehl, 2011) However, Degen e.a. (2008, p. 1910) suggest that visual experience is more complex and varied than is traditionally thought, and (as might be the case

for hearing and talking as well) it rarely works in isolation from the other senses. To support this statement, three different ways of seeing in a shopping environment are put forward. *Manoeuvring* is a way of looking when people have to navigate from one place to the other. It is described as a "*broad, surveying gaze which is used to move around objects, which acknowledges object, but does not engage in any depth with them*" and manoeuvring typically happens when someone is familiar with a place and takes little note of the direct environment. The *shopping look* is the second way of looking that is described and characterised as being a more concentrated form of looking, since one is actively searching for a product. Here, the gaze switches from 'thick' to 'thin', since one switches from navigating around to observing a product. The final look mentioned is the *parenting look*, since when someone is in the mall with children, the eyes follow the movement of the child around. An important aspect of these different ways of looking is that not looking is equally relevant. Examples are when people are together, they seem to pay less attention to their surroundings and more to each other (Degen e.a., 2008).

Hearing is an important aspect of the social environment of the (inner) city since it involves the opportunity to hear people and talk with people. Gehl states that when background noise exceeds 60 decibels, it is nearly impossible to have ordinary conversations. Therefore it is important that the environment is not too noisy, in the sense of traffic passing by and it is for that reason that conversations between people are relatively rare on busy streets. The comfort of people in urban spaces in relation to the noise produced is however more than a question of the amount of noise. After all, reducing sound level does not necessarily lead to better acoustic comfort in urban open areas (Yang e.a., 2005, p. 212).

Talking is something that greatly influences the quality of spaces outdoor. Gehl divides talking into three different categories. Talking with people one accompanies, which have no special requirements regarding place or situation since people talk while walking, standing of sitting; talking with acquaintances one meets, meaning people will stop to talk where they meet, so also without any great dependence on place and situation and; talking with strangers. The latter category is a bit more rare, but strangers will generally only talk to each other when they are at ease in their environment or engaging in similar activities. While people that know each other need a reason not to talk to each other, strangers need a reason to do so. This means that this form of conversation requires more from the environment in the sense that people need to be 'challenged' to engage in a conversation with each other (p. 168). The next paragraph will describe the relationships between strangers in more detail.

2.5.2 Strangers

The relationship between people on the street that don't know each other are considered an important aspect of the sociality of public spaces. This form of the social environment can be typed as 'social non-relations' where 'nothing happens' and these social non-relations are a typical, if not the dominant form of encounter in urbanised mass societies, according to Hirschauer (2005, p. 42). This paragraph will describe several types of strangers and the way people interact with strangers, because while most of the time there is no real observable interaction, the stranger plays an important role in the social relations (or non-relations) on the street.

Perhaps the most familiar type of a social non-relation is the interaction between strangers that meet on the street that is described by Goffman in 1963 as *civil inattention*. When two people who don't know each other are in the same place, they give enough visual attention to each other to show that they appreciate and respect each other's presence, but not too long, so they don't show too much curiosity to each other. By giving civil inattention, people show that they do not fear, want to avoid, or suspect others. People showing civil inattention have nothing to hide and are not ashamed of themselves and what they are doing (Cary, 1978, p. 1185).

Another type of stranger that defines the social aspect of public space is the 'familiar stranger'. This stranger is an individual that we regularly observe but do not interact with. The relationship between familiar strangers is one where both parties have more or less agreed to mutually ignore each other, without implying hostility. Familiar strangers are more inclined to interact with each other in

unfamiliar situations, which means that in a meeting between two familiar strangers during a daily routine on a familiar place, they will most likely ignore each other. Furthermore, people have the tendency to personalise their familiar strangers by making up names for them or even backstories (Paulos e.a., 2004).

Hitherto, interactions between strangers have been described as not being hostile. However, strangers can also evoke fear. The 'unpredictable stranger' is another type of stranger that will be described in this respect. This stranger is a person, that is encountered in public space, whom is not known and therefore can induce fear. Mostly, this unpredictable stranger is an individual who is believed to have different principles and approaches to life than the individual that encounters him or her (the unpredictable stranger is mostly a 'him'). These strangers are unknown and typically belong to a certain subculture that is (culturally constructed as) unpredictable and therefore dangerous. This type of stranger is especially feared in public spaces, because of the lack of 'control' people have over these spaces (Lupton, 1999, p. 13). The next paragraph will elaborate on feelings of fear and the perceived safety of urban open spaces.

2.5.3 Safety and identity

The amount of fear people have, and related feelings of (un)safety, has always been related to certain identities. The majority of literature about fear in public space considers women to be the most vulnerable and fearful people. However, women are not the only 'victims' in this respect. Aspects other than gender that are generally considered in terms of fear in public space are age and race.

In terms of *gender*, women are more likely to fear crime than men. This is mostly because of concerns about sexual assault in public space. The fear of women has proven to be partially justified, since violence seems to be "a common rather than a rare occurrence" and therefore women's fear of violence can be considered as a rational response to an everyday problem experienced in private as well as public contexts (Whitzman, 2007, p. 2718). However, men can fear crime as much as women can, or as Gilchrist e.a. (1998, p. 296) states:

"We can no longer ignore men's vulnerabilities, nor can we consider worry about crime relating solely to women."

Considering *age*, it are generally mostly the elderly that are seen as being prone to feelings of unsafety. The topic of public space is especially relevant in this discussion, since younger people tend to 'hang around' and thereby dominate public space, feeding into older people's fear of crime in those spaces. However, there has recently been a shift from focusing on older people's fear of crime, to a recognition that young people are more at risk and are more affected by issues of (un)safety. There is now a widespread agreement that elderly are in general not more fearful than others. These shifts in beliefs have made sure that issues of age have been the most contested area in the literature on social identity, fear of crime and use of public space. (Pain, 2001, p. 908)

Race is the final issue that will be discussed here. Although these studies are mostly carried out in the United States and the United Kingdom, fear tends to be racialised as well. Fear of white people tends to focus on other ethnic groups, which is based on strong stereotypes linking race with crime. Racial stereotypes like these are also affected by issues of gender and age discussed above. An example of this is the fact that white women are more at risk from white men in their environment than the coloured men whom their fear of crime is associated with. As was the case with gender and age, this fear is not necessarily justified, and research has shown that racial minorities also show fear, for example because of racial violence. (Pain, 2001, p. 906-907)

The general conclusion that can be made that safety, fear and identity can be related, but not necessarily in the ways one might expect. The feared groups, might as well be fearful, and have a good reason to be so. Still fear has *"tangible and serious effects on social interaction, use of space and quality of life"* (Pain, 2001, p. 911).

2.6 Summary

Since cities are turning into places of consumption rather than places of production, the urban landscape is drastically changing. This means that cities need to focus on attracting people to their inner cities and cities have to compete for these visitors. This *entrepreneurial stance* towards urban development (Harvey, 1989) has made sure that cities need to distinguish themselves and create a *sense of place*. This is created through an interaction between physical setting, activity and meaning (figure 2.1)

The physical setting can have implications on the activities that take place, for example on where and if people will walk, stand and/or sit (Gehl, 2011). Besides that, it can also influence the meaning of the city which can partly be expressed by the *legibility* of a city, which Lynch (1960) divides up into paths, edges, districts, nodes and landmarks. These more broad divisions are not the only important aspects of (the meaning of) a city. The aesthetic quality of a city, which is according to Taylor (2009) more important than the legibility of a city, is also important for how people will behave and experience the city. City planners therefore try to evoke a positive *aesthetic response* to the city (Nasar, 1994).

The final aspect that is discussed in this chapter is the social environment. On this area, which is strongly linked to the physical environment, Gehl distinguishes seeing, hearing and talking. What is seen, heard and who people talk or don't talk to, has strong correlations with how people perceive a place and how they might behave. When people visit an (inner) city, they can encounter different types of strangers, accounting for different feelings and behaviour. Some of those strangers can evoke fear, and the amount of fear one has can be linked to the identity of that person as well as the identity of that 'feared' stranger (Pain, 2001).

3. THE USER

The (inner) city, as discussed above, partly derives its raison-d'être from its users. However, no visitor of an inner city is the same. There is a difference in identity of visitors, accounting for different attitudes towards the environment, different reasons for visiting a certain place and different behaviours in that place. These motivations and behaviours will be discussed in this chapter, which will in turn form a decent outline for the empirical part of this research. After all, this research is based around (observable) behaviour and motivations of users.

3.1 Different users, different rhythms

The urban should be seen as the site where 'multiple temporalities collide'(Crang, 2001, p. 189). This means that the city is not a single abstract temporality but that it has a multiplicity of rhythms, or to be more precise:

"A multiplicity of temporalities, some long run, some short term, some frequent, some rare, some collective, some personal, some large-scale, some hardly noticed – the urban place or site is composed and characterized through patterns of these multiple beats." (Crang, 2001, p. 189-190)

In the case of the inner city in which this research takes place, this might mean that different types of visitors, bring with them different rhythms, and therefore behave in a different way. This has implications for the way this place is perceived. A person that is on his or her way to work, might be hasty, and therefore the environment might have a totally different implication on him/her and vice versa, than a person that is taking a leisurely stroll or shopping with friends.

3.1.1 Different motives

As mentioned above, people might have different reasons for visiting an inner city. This has implications for the setting in which activities take place as well as the activities that actually take place. Paragraph 2.1.3 already showed for example that there is a difference in walking, standing and sitting. When looking at walking in more detail, these different rhythms can manifest themselves through different forms of walking in an inner city. Wunderlich (2008, p. 131-132) makes a distinction between *purposive* walking and *discursive* walking, where purposive walking involves a necessary activity and can be seen walking to a clear destination. Discursive walking, however, can be walking without a clear destination. The journey is more important than the destination in this respect. One might expect both these types of walking in an inner city, where people undertake leisure activities as well as necessary activities.

Coherently, research by Kemperman e.a. (2009), in the historic downtown area of Maastricht, has shown that there is a difference between *hedonic* shoppers and *utilitarian* shoppers. Utilitarian shoppers shop with a clear goal, making their shopping trips shorter, while hedonic shoppers shop for the experience. This makes the shopping trips of the latter longer with more extensive routes. In this respect, utilitarian shoppers can be expected to have a more purposive type of walking, while hedonic shoppers practice discursive walking more. Another, perhaps overlapping, division of types of shoppers that can be made is the difference between *run, fun* and *goal*-shopping. This division is based on the motive for buying, where runshopping is a quick form of shopping (for example for daily groceries), funshopping is shopping as a form of leisure activity and goalshopping are the rarer 'big' purchases like a car of shopping for furniture (Evers e.a., 2014, p. 10). Funshopping can be seen in the more theatrical notion of *shoppertainment*, where consumers are offered fun activities and spaces are themed to attract consumers and stimulate more shopping (Pine, 1998, p. 99).

This shows that even if some visitors of the inner city can have a common goal, namely shopping, their motives and therefore their expectations and behaviours can still be different. This can have implications on the actions they undertake, the route they may choose, the speed they might walk and the time they spend in one place.

These distinctions have one striking thing in common. It is mostly the question whether a visit to a place *has to be made* or if it is something that the visitor *chooses to do*, because he or she feels like it. The implications of this differences on the visitor as well as on the environment, will be more clear from the next paragraph.

3.1.2 Necessary, optional and social activities

The distinctions mentioned above can be seen in the light of more broad differences of activities that can be performed in (public space in) the city. Gehl (2011), makes a division in three different types of activities that can be performed in this respect.

Necessary activities, are activities that are part of daily patterns that have to be performed, like traveling to work, or doing daily groceries (runshopping). Because these are activities that can be performed either way, these activities have little dependence on the physical space in which they are performed. Considering the previous paragraph, this category entails purposive walking, utilitarian shopping and run/goalshopping.

The second type of activities mentioned by Gehl are *optional activities*. These are activities that are performed by people that feel like doing it and that have the time and space to do so. Examples are a relaxing walk, lying in the sun or *funshopping*. These activities are strongly dependent on the physical environment, since these activities can and will only be done when the situation allows for it. So only when an environment is perceived as 'good enough', optional activities like fun/hedonic shopping, but also discursive walking will take place. Gehl adds to the division of these first two types of activities that activities that are necessary for some people may be freely chosen by others. Historically speaking, where public space used to be historically dominated and meant to accommodate necessary activities, nowadays more optional activities are performed in public spaces (Gehl e.a., 2013). This could mean that public space (in cities) is more and more valued for its perceived quality, or in other words, for the extent in which it accommodates those optional activities.

Social activities are considered as all the activities that are dependent on the presence of other people. Examples are children playing, group activities, but also more general things like watching other people. These activities can be seen as a product of the two types of activities mentioned above. Because social activities can arise spontaneously as a result of the way people move through space, they are dependent on the extent in which the two types of activities mentioned above are being facilitated by the surroundings.

The relationship between the perceived quality of the space and the extent in which the three types of activities can be performed, is summarised schematically in figure 3.1. This figure shows the fact that necessary activities are not or barely influenced by the environment, while optional activities, and to a lesser extent also social activities, are more dependent on and influenced by the quality of the environment in which they are performed. (Gehl, 2011, p. 9-11)
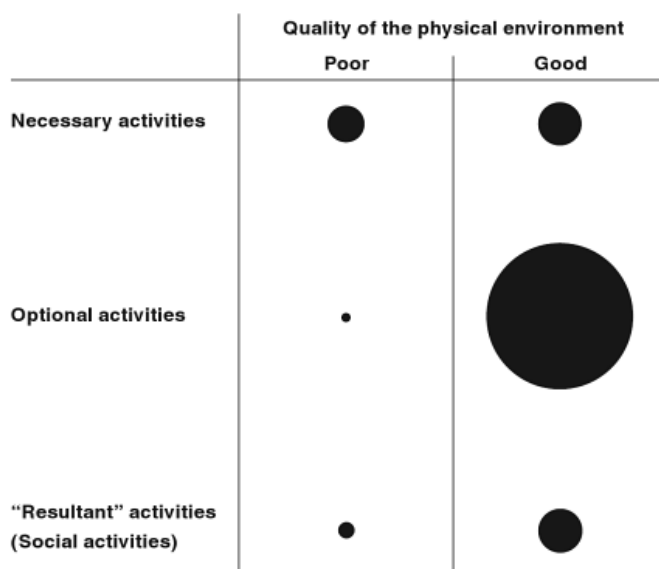

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Figure 3.1: Influence of physical environment on different types of activities, source: Gehl (2011)

3.2 Attitudes, experiences and knowledge

People behave and think according to certain external and internal contexts. This context can be seen as the geographic or social environment one is in (as discussed in chapter 2), but the body and mind of an individual can also be seen as a context. After all, individuals feel differently about themselves, their lives, other people, places and things they value (Crouch, 2003). Past experiences, that are part of the mind of individuals, influence, and are influenced by, behaviour. What we know and what we have done in the past is reflected in how we act, or as Crouch (2003, p. 1955) states:

"There is a transfer of time and space and a refiguring and revisiting of memory that becomes embodied performatively. (...) As things are done, other events are remembered and re-placed into the present. Memory is also temporalized and can reinvigorate what one is doing now (...)."

Thus, experiences, memories and past events, are *embodied* and *performed*. This means, among other things, that the perception of a place can have an impact on the behaviours of, and experiences people have with, a place. A division that is of importance in this case is between *topophilia* and *topophobia*. This division highlights how the perception of place plays a strong role in the production of emotions. In this respect, topophilia can be defined as a positive affective link between people and their material surroundings. This in turn implies a pleasurable environment in which one resides. Topophilia is the opposite, in the sense that it can be associated with a negative relation between the user and the environment (Gonzalez, 2005, p. 194-195).

Actions are also related to the knowledge people possess. These relations are especially present in terms of seeing an individual as a consumer. In this sense, the notion that there is rational consumer and that actual consumer activity differs considerably from the behaviour of this rational consumer (Meyer, 1977, p. 355), has set the stage for research behaviour. Therefore Zhu e.a., among others, plea for bounded rationality theory and models to predict behaviour. The idea of bounded rationality is related to the aforementioned notion that consumers are not rational and will only behave according to the information they are provided and the knowledge they possess (Zhu e.a., 2008). In other words, what people know, and don't know, influences the way in which people will behave and their attitudes towards an environment.

3.3 Behaviour

It is clear now how peoples personal experiences, attitudes, knowledge and related attitudes can influence certain (embodied) behaviour. This paragraph will finally try to go into more detail about behaviour. The study of behaviour of people in relation to their environment is rather complex. As already described in this chapter, there are a lot of factors (internal as well as external) at play that influence the experience and attitudes of individual visitors of an inner city. Following this line of thought, there is not one way in which to describe behaviour in space. There are however some ideas and concepts that try to do this.

For example, Bitner (1992, p. 60) mentions the idea (from the field of environmental psychology) that the way people react to their environment is twofold, namely via *approach* and *avoidance* behaviour. Approach behaviour refers to positive behaviours such as desire to stay at a place and positive affiliations with the environment. Avoidance behaviours are the opposite of the latter. They refer to the negative experiences people can have with a certain place. Avoidance behaviour must therefore be prevented while approach behaviour should be stimulated.

Mehta (2009) discusses the notion of different 'behaviour settings', focusing on everyday human behaviour with relation to the physical setting. This implies a relation between setting (in this case an inner city) and the behaviour that might take place in it. This notion is also followed in this research, since this research is based around the fact that a different setting, or environment might provoke different behaviour. Exploring 'behaviour settings' in more detail, it consists of a milieu (the environment), a pattern of behaviour (recurring activities) and a synomorphy (a relationship between the two). The greater the relationship between the milieu and the activity, the better the behaviour setting is able to allow for human behaviour and needs. For this research, this means that the streets

and squares where the research takes place are seen as the milieu, and a pattern of behaviour will be observed, and a synomorphy is trying to be found between these two.

Looking back at the division made by Gehl (2011) between necessary, optional and social activities, some more examples can be named of behaviour that fits these types of activities. These examples can be seen in figure 3.2 and also reflect back on earlier distinctions made between standing, walking and sitting. As can be seen, a person who is observed while window shopping, is argued to perform an optional activity more than a necessary activity. Following the logic of figure 3.1 where the relationship with the quality of the environment is discussed, this would mean that an environment of higher quality would accommodate more window shopping or in the case of sitting and standing, more people 'enjoying life'.
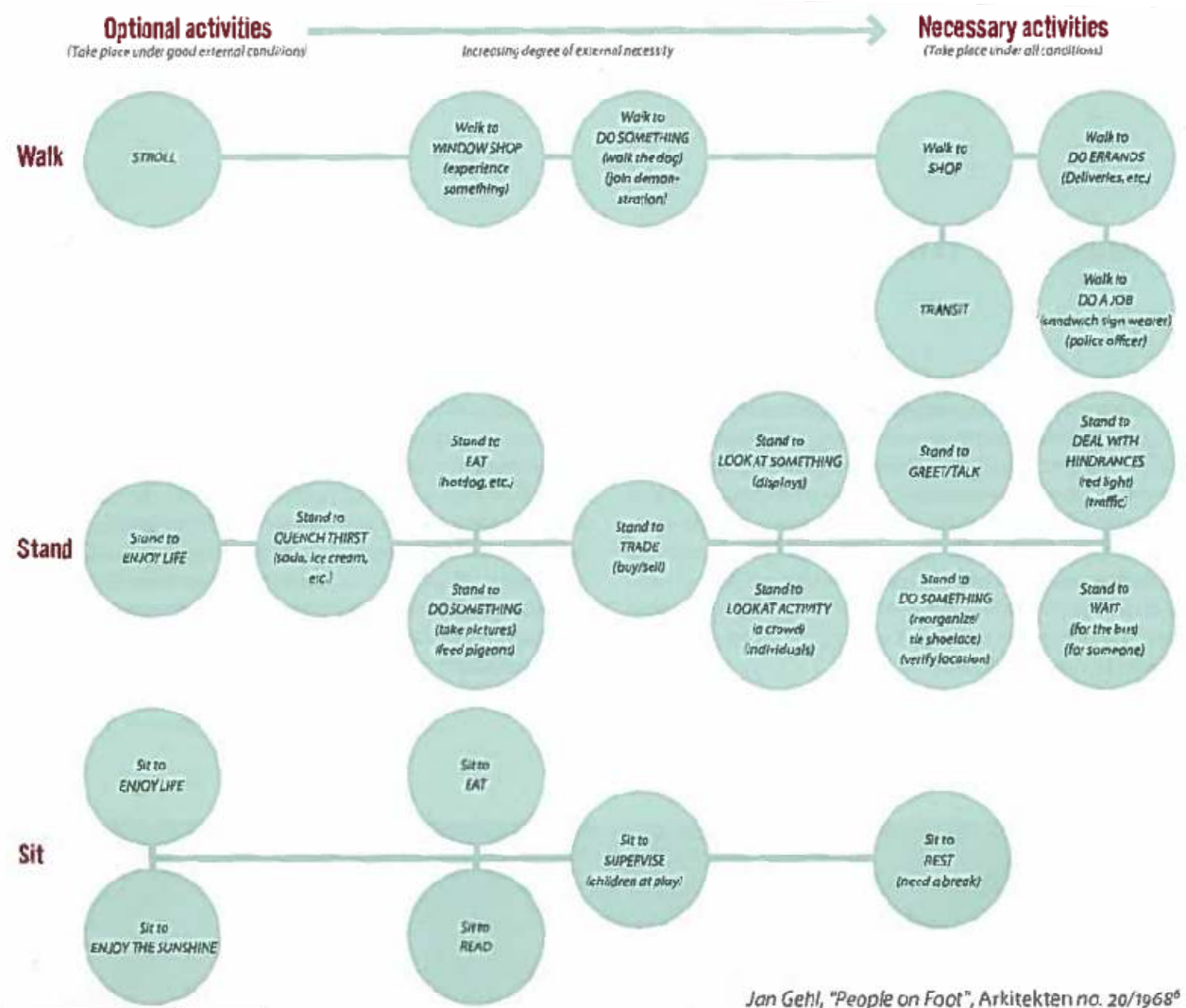
Figure 3.2: Examples of the different types of activities according to Gehl, source: Gehl e.a., 2011

It would be ideal to conclude this paragraph with specific sets of observable behaviour that can be incorporated in an observation schedule. This is however not the case. "*the difficulty of translating embodied sensation into verbal description*" (Degen e.a., 2008, p. 1909) is also present here. This means that, although there are some broad theories of **types** of behaviour, many of which are discussed in this chapter, there is no real scientific evidence to point towards specific actions that people undertake and what that means for their relation with, and perception of, the environment. This means, for example, that it is clear that a certain environment might evoke 'avoidance behaviour' or

might better nurture 'optional activities', but not how this behaviour translates itself in actual tangible behaviour. However, using logic, certain behaviour can be expected to relate to certain motives. As an example, while literature does not explicitly show that walking slower can indicate someone willing to spend more time in an environment, this can be used in this research as being in relation with each other.

3.4 Summary

The city is a place where 'multiple temporalities collide'(Crang, 2001, p. 189). Different people, with differentt attitudes and motives make up an urban space, making space more than just a place. The activities that take place in an inner city have a lot to do with the motives of visitors; why are they there? In this respect it is relevant to ask if the visits are necessary or optional (Gehl, 2011). Necessary visits to the inner city can be associated with goal-oriented activities such as purposive walking (Wunderlich, 2008), utilitarian shopping (Kemperman, 2009) and goal/runshopping (Evers e.a., 2014). Optional activities are based more on free will and free time and can result in discursive walking (Wunderlich, 2008), hedonic shopping (Kemperman, 2009) and funshopping (Evers e.a., 2014). Gehl (2011) argues that the perceived quality of public space influences the amount of optional activities that take place, while necessary activities are performed independent of the quality of the environment.

Internal influences on people's behaviour are a question of attitudes towards an environment, past experiences and the knowledge an individual possesses. This partly explains why behaviour is unpredictable and why it is difficult to translate these 'embodied experiences' into observable behaviour. This does not mean that there is no relation between behaviour and physical environment, or behaviour setting (Mehta, 2009).

However, the literature about behaviour in public space has only provided a lot of general theories. This literature is very useful in providing overviews of *types* of behaviour that could take place, in relation with their environment, but does not provide a guideline for observable behaviour to be noticed during empirical research.

3.5 Conceptual model

The theoretical framework, formed in chapter two and three, is summarised in a conceptual model, which can be seen as figure 3.3. This part of the report will discuss the different variables in this model and elaborate on the shown relations between them.
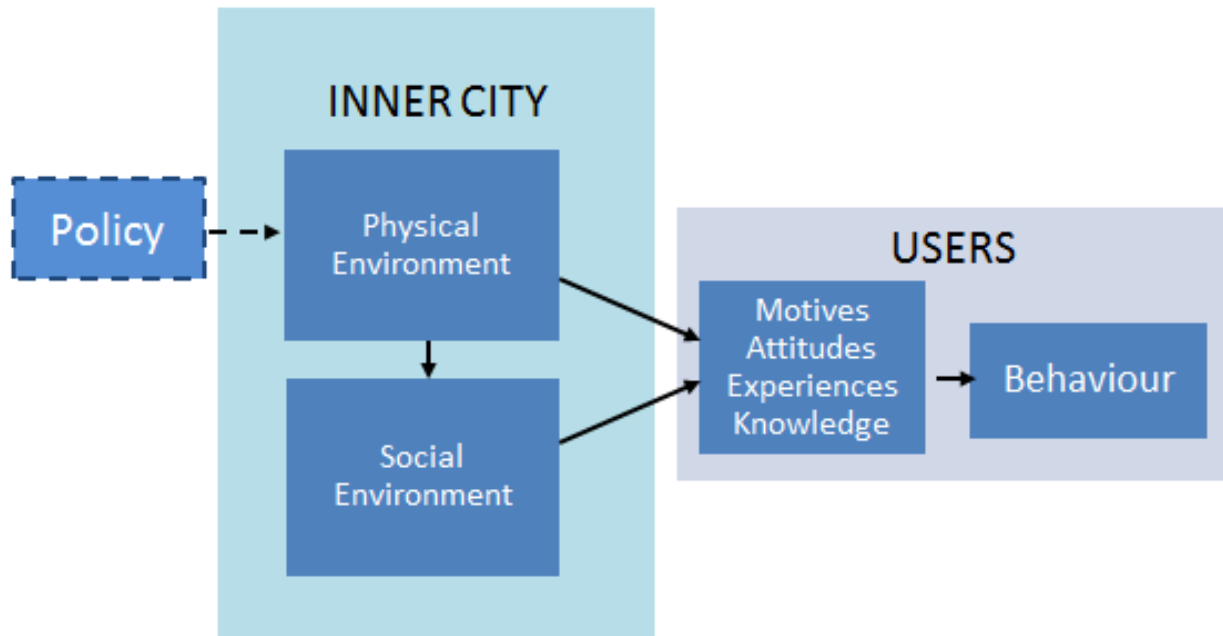
Figure 3.3: Conceptual model, source: Own work

As can be seen, chapter two (the city) is shown on the left side of the model, while the users, discussed in chapter three are depicted on the right side. Each of the separate elements have been discussed in these two previous chapters but will shortly be mentioned again here. The physical environment has been discussed in paragraph 2.3, and also in paragraph 2.4, since in this model the aesthetic environment is seen as being part of the physical environment. The other aspect of the city that has been mentioned is the social environment, which is also depicted in this model. As can be seen by the arrow, the physical environment has an influence on the social environment. All the further aspects of the physical and social environment and their relations are discussed in chapter two.

The users, which form the next part of this theoretical model, have been discussed in chapter three. Firstly, the motives, attitudes, experiences and knowledge users possess are mentioned in the conceptual model, because as has been argued mainly in paragraph 3.1 and 3.2, these are influenced by the environment and, in turn, influence behaviour that is to be observed (paragraph 3.3). In more detail, Both the physical and the social environment influence the users through their motives, attitudes, experiences and knowledge, as can be seen in the model. Mehta (2009) describes this by using the term of 'behaviour settings', where a relation is assumed between an environment and the behaviour that takes place in it. People have their own perceptions of the environment that they are in, for example shown through topophilia and topophbobia (Gonzalez, 2005) as was shown for example by Gehl (2011) that motives can influence behaviour and that that is related to the quality of the environment, where optional activities which people choose to do are performed more in environments of good quality.

The dotted arrows, show a part of the conceptual model that does not specifically form a part of this research. But policies that are implemented influence the physical environment, starting the process from the beginning. Policymakers might be able to use this research as a starting point for implementing policies aimed at improving visitor experiences in cities, through changing the environment in accordance with behaviour that is observed, and this will be shortly touched upon in the concluding chapter of this research.

Looking back at the research questions put forward in chapter one and copied below, The first sub question is related to the first part of the theoretical framework and conceptual model, while the second and third sub questions are more in accordance with the 'user' part of the theory and conceptual model.

What is the relationship between the environment and the behaviour in different parts of the inner city of Utrecht?

1. **What are the physical and social characteristics of the areas of the inner city in which the research takes place?**
2. **What are the motives for visiting the inner city and how does this differ between the different parts of the inner city, with regards to these different characteristics?**
3. **Which behaviour of visitors can be observed and how does this differ between the different parts of the inner city, with regards to these different characteristics**

4.

METHODOLOGY

Now that a literature study has taken place to determine which aspects of the inner city and its users can influence the experience of visitors, and to identify the behaviour of those visitors that can go along with this, this chapter will discuss the way further data will be collected during this research and the research population that will be approached.

4.1 Data collection

Data collection in this research will take place in two manners. First, systematic observation will be used to get a grasp on different behaviours and reactions to certain parts of the inner city. Furthermore, to provide complementary evidence and first-hand information from the visitors of the city centres themselves, short on-site surveys will also be held. The observations can give answers to questions about both aspects of the environment, in terms of what is there and also of who is there. Survey research will go into detail a bit deeper about general (aesthetic) perceptions of the environment, by asking what visitors think and feel in regards to the environment. This is mainly because one observer cannot make any statements of (especially the aesthetic aspect of) the environment, without it being an objective one sided judgment.

4.1.1 Observations

To get a complete image of the behaviour and experience of visitors of the city centre, short systematic observations will take place in different places and at different times. One can expect to observe different behaviour and come across different people at different times and at different locations, as the theoretical framework has already put forward. Some places might be avoided and some places might attract more people, and this might be because of the social as well as the physical environment. These differences are important for policy makers as well as the observer to be able to formulate a complete image and make a comparison between these different times and places. Since this research entails behaviour of people in relation to their environment, using only surveys as a research method is not sufficient. Bryman (2012, p. 270-271), mentions several difficulties that are encountered when using methods like a structured interview or a self-completion questionnaire in relation with the behaviour of respondents:

- *Problem of meaning*. People might have different interpretations of terms used in a question.
- *Problem of omission*. Respondents might overlook some key terms in a questionnaire.
- *Problem of memory*. Respondents might forget certain behaviour or remember it incorrect.
- *Social desirability effect*. People might give answers according to what they think is the desired answer.
- *Question threat*. Respondents might not give an honest answer because they perceive a question as threatening.
- *Interviewer characteristics*. Some aspects of the interviewer might influence the answers given.
- *Gap between stated and actual behaviour*. What people say about how they will behave might not be consistent with how they actually behave.

Systematic observation, which this research will mainly use, solves these issues, since participants will not fill in their own answers, and are not aware that they are a participant in the research. Bryman (2012, p. 272) describes systematic observation as

"a technique in which the researcher employs explicitly formulated rules for the observation and recording of behaviour. The rules inform observers about what they should look for and how they should record behaviour. Each person who is part of the research is observed for a predetermined period of time using the same rules. These rules are articulated in what is usually referred to as an observation schedule."

The observation schedule for this research can be seen as appendix 1. In this observation schedule, the types of behaviour that is to be observed is specified. Using codes, people's behaviour is summarised in a few categories. These categories of behaviour should not overlap and include every type of

behaviour that can be observed. One issue that might arise from this type of research, is that it sometimes requires an interpretation from the observer. In the example of the observation schedule used in this research (appendix 1) one might argue when an observant takes a 'slight detour' when walking through the observation area. Therefore, and to test how easy (or difficult) the observation is to operate, a few test observations have been done prior to the actual systematic observations. This is also useful to do some more detailed research on the research areas themselves, and the practicability of the observation schedule with regards to the research area.

One type of critique that has been implied on structured observation is that structured observation is not able to capture the intentions behind the behaviour that is observed and that is neglects the context in which that behaviour takes place (Bryman, 2012, p. 284). Therefore, this research also uses short on-site surveys filled in by visitors to provide complementary data in this field. The next paragraph will go into more detail about this.

4.1.2 Surveys

The short on-site surveys that will be held, will provide information about the visitors evaluation and experience of certain places and can furthermore provide information about the reasons for the visit. After all, the information following the observations is only limited to behaviour that is actually observable, while this information can be complementary in finding out reasons for their visit. Since the questionnaire is on a self-completion basis, certain criteria have to be considered (Bryman, 2012, p. 233). The questionnaire has to have few open questions, be easy to follow to minimize the risk of a wrongly filled out questionnaire and be relatively short to make sure the respondent does not get tired of answering a lot of questions. These issues are extra important since the surveys will be handed out on the street and need to be filled out 'on the spot'. To research the viability of the questionnaires regarding the situation, a few pilot surveys will be filled in.

A schedule has been made by Mehta (2009) considering the difference in types of questions and the way in which surveys will provide complementary information to observations (figure 4.1)

Figure 4.1: Indication of type of questions answered through research methods, source: Mehta, 2009

As can be seen in figure 4.1, the main question that will be answered through surveys is 'why?'. The survey that is used for this research can be seen as appendix 2. The first three questions are about experience and familiarity with the environment. After all, it is hard, if not impossible, to observe how often someone has visited the research area or if someone lives in the city or lives somewhere else.

The next set of questions, question four and five, answer the question **why** the visitor is visiting the city centre, as well as the specific research area(s). This can be used to find out the motives for the visitors, which, as shown in chapter three, can have a strong influence on behaviour. These motives cannot be directly observed for the biggest part.

The following set of questions will be used to measure the attitudes of visitors towards the environment. Do they enjoy the environment or not? This information can be used as complementary information together with the observations. If one place is consistently perceived in a certain way, and there is also a certain type of recurring behaviour observed in that area, the argument that the (perception of) the environment influences behaviour can be made. Only observation would not be

sufficient in this case, because what someone thinks of an environment in terms of qualitative assessments and feelings cannot be adequately studied just through observations.

The last two questions that are asked are the two personal characteristics that are also part of the observation schedule (appendix 1). This is to find out whether the observed population is comparable with the people that filled in a survey and to give a general image of the sample population for this research in terms of gender and age.

4.2 Research areas

This research will take place in several parts of the inner city of Utrecht. For this research, two shopping streets will be observed, and two squares. Both of the streets flow directly from each of the two selected squares. This means that two broader research areas can be separated, each containing both a street and a square. The two areas are the 'Vredenburg' square, with the adjacent street 'Achter Clarenburg', and the 'Mariaplaats' with the 'Zadelstraat' attached to it. Appendix 4 show the position of the two research area in relation to the inner city of Utrecht. For the division of the two areas, physical factors of the environment, as well as social factors are taken into account. These factors are expected to differ substantially between the two areas. The next section will go into detail about each area and go into these factors in more detail.

4.2.1 Area one – Vredenburg / Achter Clarenburg

The first research area is a relatively new area in the inner city of Utrecht. An important aspect of this square is the exit of the Hoog Catharijne mall, a big redevelopment project from the second half of the twentieth century. Since Hoog Catharijne connects the central station of Utrecht to the inner city, the Vredenburg square functions as one of the entrees to the inner city for train passengers. The Hoog Catharijne redevelopment project can however not be called a success. Finished in 1974, it is now seen as an example of lack of taste in the seventies, and widely seen as one of the ugliest buildings in the Netherlands (NRC, 2013). Policymakers seem to agree with these statements, since the area of Hoog Catherijne is already in a stage of new redevelopment because:

"there had been overdue maintenance, neglect (...)[and] the historic inner city and the station area where two separate parts of Utrecht."(CU2030, 2015)

Figure 4.3: View of Achter Clarenburg from Vredenburg square, source: own work

Figure 4.2: Above view of research area 1 (green and blue), source: Google Maps, 2015.

Therefore the Vredenburg square and the adjacent shopping street form an interesting research area in two ways. On the one hand, due to the Hoog Catherijne mall on the west side of the area, the physical environment can be considered a push factor. After all the area is stated to be in a state of decay and is considered one of the ugliest buildings in the country. In this respect, one might expect this area to be related to and associated with topophobia (Gonzalez, 2005) and avoidance behaviour (Bitner, 1992), (see paragraph 3.3).

For the adjacent shopping street, which still borders the Hoog Catherijne building on one side, this might mean less visitors, or at least visitors who spend less time in the area and who are less willing to enter a store. While this research will try to found out if this is actually true, one might safely say that the retail environment of this area cannot be considered ideal. After all, as already mentioned in chapter 2, the historic and architectural character of buildings can create a distinctive urban retail servicescape and in the process create character (Warnaby, 2009, p. 290). At this moment, the Vredenburg square and Achter Clarenburg fail to do so. This statement can be backed up by the fact that the direct area lacks historic architecture in general, as shown in figure 4.8.

On the other hand, due to the relative position of the area within the centre of Utrecht, this area also has fulfills a certain function. Paragraph 3.2 already showed that a(n inner) city is a place of many temporalities and rhythms. The fact that the entrance/exit to Hoog Catherijne is part of the research area, one might expect a lot of pursposive, goal-oriented activities to take place. The fact that it is part of the route between the city centre and the central station, could account for more purposive walking (Wunderlich, 2008) to take place, while there are more utilitarian shoppers (Kemperman, 2009) in the shopping street. The latter is expected because of the tendency for hedonic shoppers (Kemperman, 2009) or funshoppers (Evers e.a., 2014) to be more attracted to an aesthetically pleasing area. Turley e.a. (2002, p. 137) recognises this by stating that:

"For many consumers (...) shopping is an experience which should be a "fun" activity. These consumers seek excitement and arousal from the environment of a retail store and spend more money in these types of environments."

A map has been made of the environment, to find out the functions that are present in the area. This map can be seen as figure 4.4 and shows that the area mainly consists of a mixture of different types
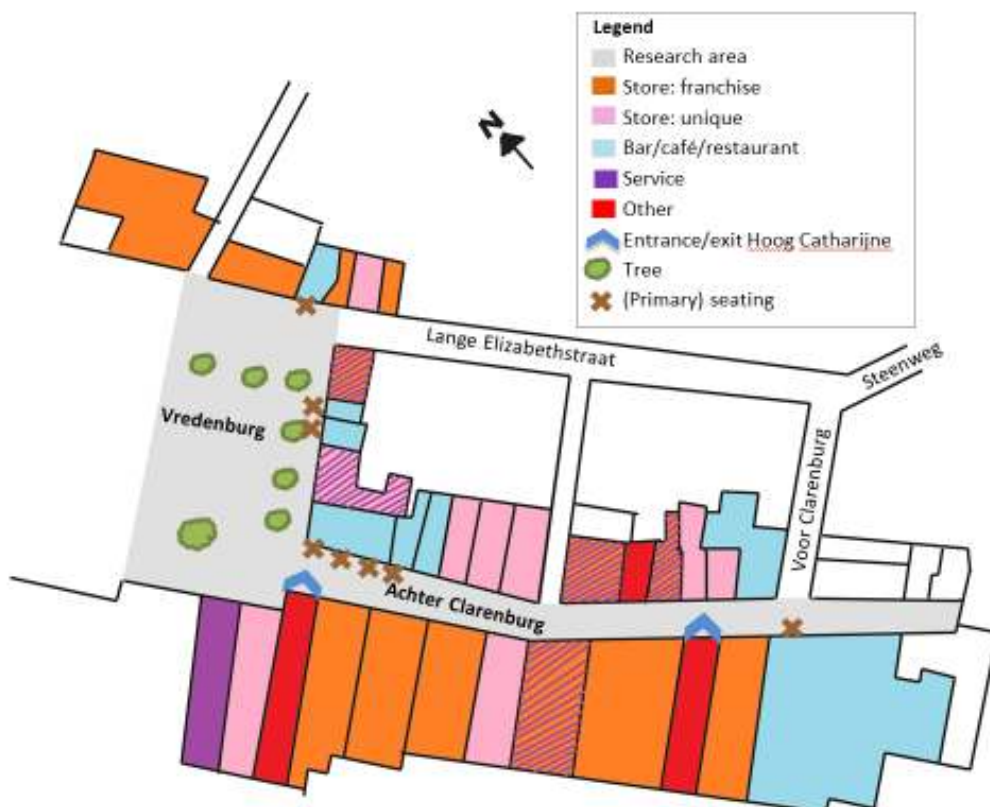

Figure 4.4: Function map of research area 1. Source: own work

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of stores, with the biggest stores being franchise stores. The stores that have a mixture of service and store area, are all telecom stores where mobile phones can be repaired but also bought. The 'blue' buildings are mainly fast food stores where one can grab a quick bite to eat, with exception for the ones at the back of Achter Clarenburg and at the north side of the Vredenburg square. The exits/entrances of Hoog Catharijne are interesting, because these are areas where people coming from the mall and the station area will be entering or leaving the area.

The unique stores are mostly small clothing shops, while there are also two Asian supermarkets. The places to sit that are marked on the map are all private seating, in the sense that they belong to one of the restaurants or cafés, so there are no public benches in this area.

To conclude, while there is a mixture of functions in the area, there is a tendency towards either big franchise stores, or smaller, 'cheaper' stores.

4.2.2 Area two – Mariaplaats / Zadelstraat

The second research area is situated in the more historic part of the inner city of Utrecht. This area has a few similarities with the first research area, but also some very important differences. The similarity is, that this area, just like the first area, can be seen as an entryway to the inner city from the central station. The Mariaplaats is described as an important link between the station and the main shopping areas of the inner city, as well as the museum neighbourhood of the inner city (Gemeente Utrecht, 2015).

The direct environment of this research area however, differs substantially from research area one. The architecture is more historic (see figure 4.8) and the general area is considered less ugly and less neglected than the Hoog Catherijne buildings, although aesthetic claims are always hard to back up with factual information due to the subjective nature of these claims. The argument can however be made that because of the more pleasurable (built) environment, people might have the urge to stay longer and perform more discursive and hedonic activities in the area. This could be the main difference between the first research area that is described above, but these claims or nothing more that underpinned speculations, until this research has actually been carried out.

The Zadelstraat connects the Mariaplaats with the Dom tower and the rest of the inner city. This is a street that is clearly more oriented towards funshopping, hedonic shoppers and the experience economy. On the website zadelstraatutrecht.nl, the street is advertised as: *"The oldest paved shopping street in Utrecht"*, where *"in small shops with beautiful facades, articles from over the entire world are sold"*, even *"the cozy (lunch)cafés and terraces are not lacking, all while offering a beautiful view on the Dom tower"*. It is clear from this statements that this street might have a more favourable place and role in the experience economy than Achter Clarenburg, since (as put forward in more detail in chapter two) the experience economy involves the growth of leisure consumption and the development of customer relationships (Lorentzen, 2009, p. 833). This is something that seems actively strived towards in this street, seeing the quote above.

Figure 4.5: Above view of research area two (blue and green), source: Google

Following the claims made by Turley e.a. (2002, p. 137) that were mentioned in paragraph 3.2.1, one might therefore argue that consumers will spend more money in the Zadelstraat. After all, the Zadelstraat succeeds better in offering the distinctive urban retail servicescape that Warnaby (2009, p. 290) mentioned. Other social behaviour might also be expected between both the research areas, because according to Gehl (2011), an environment that is perceived as more pleasurable, might provoke more and better social activities.

Figure 4.6: Picture of the Zadelstraat taken from the Mariaplaats, soucrce: own work

Looking back at the division in types of activities made by Gehl (2011) that was mentioned in paragraph 3.1.2, one might expect research area **one** to be predominantly shaped by necessary activities and less by optional and social activities. After all, the quality of the environment allows for less of the latter two activities to take place. This while research area **two** is more inviting to perform optional activities and social activities, while necessary activities will still take place, since there is no requirement on the quality of the space for necessary activities.
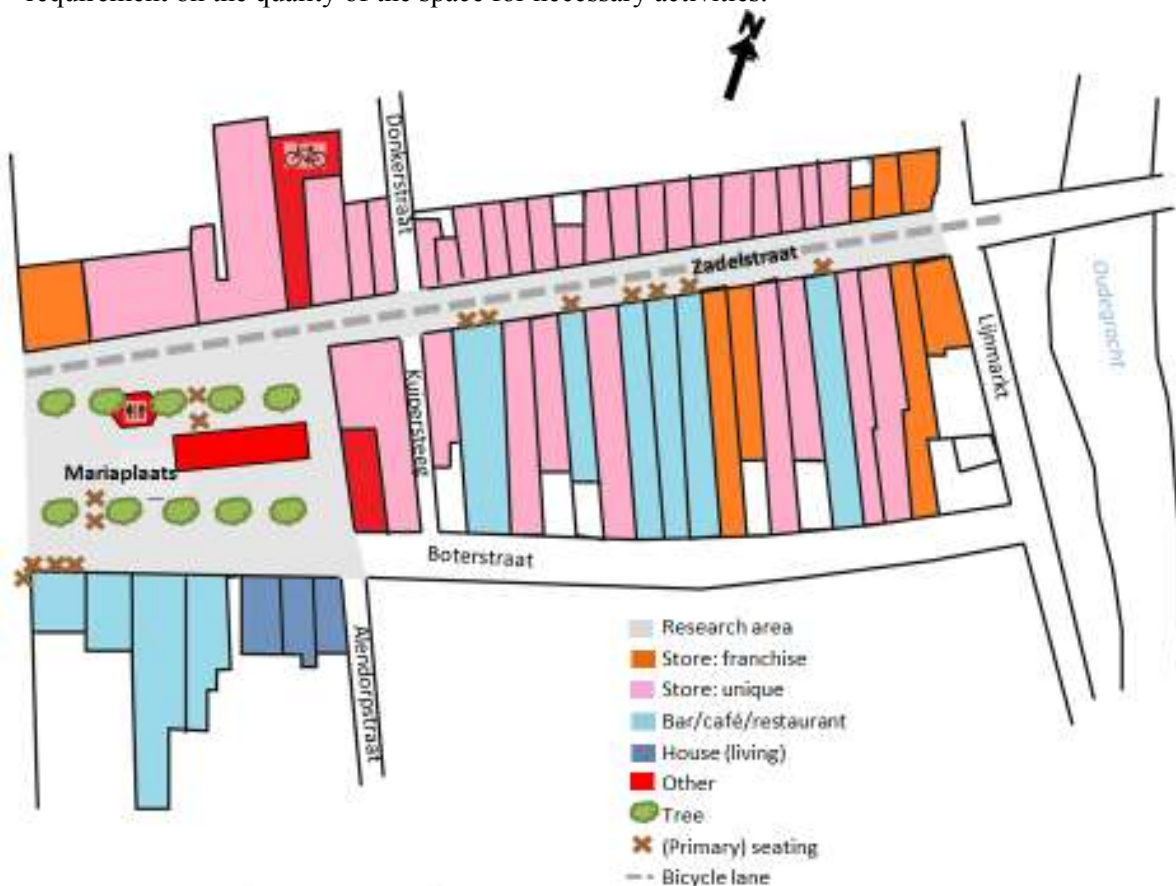

Figure 4.7: Function map of area two. Source: own work

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Looking at the function map of this area (figure 4.7), it is clearly visible that this area consists mainly of unique, smaller stores. These stores tend to be more expensive than the stores in area one. Also the franchise stores are in the more expensive categories, with higher brand bag stores and for example a Lacoste clothing store. Compared to the Vredenburg square, the Mariaplaats square has public seating in the form of benches. The seating in the Zadelstraat is private seating in the sense that they belong to the bars, café's or restaurants they are placed in front of.
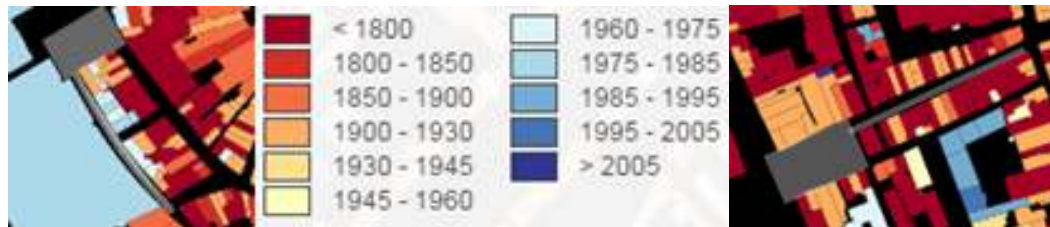

Figure 4.8: Age of surrounding buildings of area one (right) and two (left). Source: Waag society, 2013

4.3 Research population and sampling

4.3.1 Observations

Since the observation part of this research involves a systematic observation of the visitors of certain places in the inner city, there is no specific demand of the types of visitors that are observed. The only choice that is made, is that only pedestrians will be observed. So people riding a bicycle, or another type of transportation, will not be incorporated in the research. When a visitor of the research area arrives by bike, he or she is part of the observed population when that person enters the area *as a* pedestrian. Apart from this, the types of visitors per place form a result of the observations, rather than a premise for the observations themselves. The population can therefore be described as the pedestrian visitors of the research areas (see paragraph 3.2), at the time the observations took place (discussed below).

In terms of the systematic observations that took place, certain issues regarding sampling of the observees arise. Firstly, the randomness of the sampling must be ensured. In this case however, it was not possible to perform totally random sampling, since the observations took place in a public area. Constructing a sampling frame of people walking on the street is difficult (Bryman, 2012, p. 278). In this research, the sampling of the observees is based on whoever entered the research area after one observation has finished. An observation is finished when the observee either leaves the area or when the time limit has passed. This is a form of 'focal sampling', since one specific individual and his or her behaviour is observed for a set period of time, or for as long as he or she is in the research area. This strategy of observation is referred to by Bryman (2012, p. 276-277) as a special form of observation in which observations take place in terms of *short periods of time*. The reason for these strategies to be adapted is that it is impossible to observe everyone at the same time in the research area, and in this manner more detailed behaviour can be studied for each observed individual. A disadvantage is that not every pedestrian is part of the observations. The maximum amount of time a pedestrian was observed in this case is set to five minutes, since it is expected that this is a long enough time to observe the behaviour in the observation schedules, although test observations have proven that almost all observees leave the area before this time.

Time
This means that the minimum amount of pedestrians observed in one hour was twelve, while most of the time this was more. Test observations have indicated that the amount of pedestrians that is observed in an hour is about twenty. Observations at each location took place for three hours per day (accounting for about 60 observations per day) on two separate days, once on a weekday and once in the weekend. The rough timespan for observations and surveying was in the period between 17 May and the 7th of June. Mondays were excluded because of different opening times of stores, as well as Sunday the 24th of May, because this is a special holiday on which stores were closed.

Each day, observations took place between 12:00 and 14:00, as well as 15:00 and 16:00, when there were not yet enough pedestrians observed, there is enough time to extend the time beyond 16:00. However, this turned out to be unnecessary.

Amount
This means that the total amount of pedestrians observed was expected to be about 120 per location. With four locations, the total amount of observations should be around 480.

4.3.2 Surveys

As with the observations, the population for the survey research can be described as the pedestrians that were present in the research areas. In principle, every pedestrian in the research areas had an equal chance of being approached to fill out a survey and ideally, every pedestrian fills out a survey. Of course several issues might arise in this respect. First of all, the researcher cannot always approach two people at the same time. Furthermore, not every pedestrian may be interested in filling out a survey or has time for filling out a survey. There are no further criteria for potential respondents, except that they have to be able to understand Dutch and/or English.

Time
The surveys were held in the same time period as the observations took place, so that there was as little difference possible between the observed population and the population that filled out a survey. Observations were therefore alternated with the handing out of surveys. Surveys were handed out between 11:00 and 12:00, as well as between 14:00 and 15:00. When this proved to be insufficient, there was potentially time between 15:00 and 16:00 to hand out surveys. A 'typical fieldwork day' therefore looked like table the timeline below, with the lighter red being survey time, and the darker red being time when observations took place. The hatched timespan will thus function as extra time, when the periods before proved to be insufficient.
The reason to do all field work between 11:00 and 16:00 is because this is in the middle of the typical opening times of stores, which is between 9:30 and 18:00 for most stores.

11:00 – 12:00	12:00 – 13:00	13:00-14:00	14:00-15:00	15:00-16:00
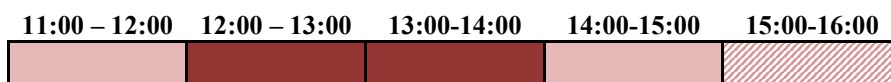
Amount
The expected and strived for amount of surveys to be handed out and filled in will be around 30 on each day. This will mean that each area will be expected to have about 60 respondents, with a total of 240 respondents in the four areas combined.

4.3.3 Weather conditions

Because a lot of the observations, as well as some survey question answers, are expected to be affected by weather conditions, these conditions were (as much as possible) kept the same. Field work days were moved so that there were no rainy days, and in general the temperature was kept between about 12 and 20 degrees Celsius. This way, the interference of weather conditions with the research results were kept to a minimum.

4.4 Data processing

Processing of data, like the collection, is done in twofold, since the processing of the observation and survey takes place in separation, as they are two different types of data. All data is however processed as quantitative data. The results of the analysis of the data are presented in chapter five. This paragraph serves as background to this chapter and to motivate the choices made for the data processing.

4.4.1 Observations

Data from the observations is processed using SPSS. Since this is a computer program that works using coding, the observation schedules can be perfectly copied in this program the way they are filled in. Each observee is a case, and each observation (coded 1, 2, etc.) is a variable. In this way, descriptive statistics can easily be calculated, from which conclusions can be made about general

visitors and behaviour in each area. This data can then be compared between areas using appropriate statistic testing (see chapter five). Data from all locations will be entered into one database, to make comparisons possible. The areas will be coded according to numbers one to four in the following way: **1:** Vredenburg square **2:** Achter Clarenburg **3:** Maartensbrug **4:** Zadelstraat

4.4.2 Surveys

In the case of the surveys (see appendix 2), SPSS is also used. Again the respondents are the cases and the questions asked are the variables. However, since the surveys are not filled in according to a schedule, some recoding has to be done. Questions 1, 2, 3, 12 and 13 are questions on which only one answer can be given, which can thus be coded with number 1, 2, etc.. This is however different for questions 4 and 5, where multiple answers can be given to one question. This means that each possible answer to those question must be dealt with as a separate variable, with two possibilities, namely yes (1) or no (2).

Questions 6-11 are also coded different. These questions are asked according to a *semantic differential* scale, which means that two opposite terms are used at each end, where respondents can indicate to what extent they agree with each term (Heise, 1970). In this way, the attitude of the respondents towards their environment can be measured. For example, do respondents feel that the environment is pretty or ugly? All variables are arranged from positive to negative, with a score from 1(ugly) to 5 (pretty), which means that generally a score of 5 means that the attitude towards the environment is very negative, and a score of 1 means that respondents are very positive. A score of 3 refers to a 'neutral' attitude, in the sense that a respondent finds the environment neither ugly nor pretty.

This scaling is not used to measure individual attitudes, but rather group attitudes. The average attitude of all respondents can be calculated per area for each category. A Cronbach's Alpha will be used to check for the internal reliability of all variables. When the Cronbach's Alpha is high enough, one score can be measured for the total attitude towards the environment with all variables taken together (Bryman, 2012, p. 170). In this way it is possible to make a clear comparison between each area and the attitude towards the environment of all respondents there. Chapter five will go into more detail about this.

4.5 Expectations

In accordance with the theoretical framework and the description of the research areas, a comparison can be made between the two areas and the behaviour that is expected to be observed there. In reality these differences are not expected to be as black and white as has been presented above. Not in the least because of the fact that a lot of inner city visitors are not necessarily one type of visitor. If these expectations are met, can be seen in the next chapter. First, the way in which the constructs are measured and comparisons are made will be mentioned. The expectations are presented in table 4.1.

Area one	*Area two*
Topophobia (Gonzalez, 2005)	**Topophilia** (Gonzalez, 2005)
Utilitarian shopping (Kemperman e.a., 2009)	**Hedonic shopping** (Kemperman e.a., 2009)
Run and-goalshopping (Evers e.a., 2004)	**Funshopping** (Evers e.a., 2004)
Purposive walking (Wunderlich, 2008)	**Discursive walking** (Wunderlich, 2008)
Necessary activities (Gehl, 2011)	**Necessary/optional/social activities** (Gehl, 2011)
Walking	**Walking, standing and sitting**
Avoidance behaviour (Bitner, 1992)	**Approach behaviour** (Bitner, 1992)

Table 4.1: Expectations

4.6 Data analysis

In this paragraph, the way in which the constructs mentioned in the previous paragraph are measured are further explained. The way in which the expectations will be tested using the constructs described below, will be clear from chapter 5 and appendix 3.

4.6.1 Constructs

Topophobia/topophilia

From paragraph 3.2 it was clear that question of topophobia or topophilia has to do with the perception of the environment. That's why these constructs are measured using questions 6-11 of the surveys, that measure the perception of the respondent towards the direct environment on six different aspects. Each of these aspects can be used to evaluate topophobia or topophilia, as well as the total perception, which uses the average of the six questions combined, as explained in paragraph 4.4. This data will also be used to form a general conclusion about the aesthetic environment of the research areas (see paragraph 2.4).

Shopping motives

The motives of the users of the research areas indicate several constructs, which are all mentioned and explained in paragraph 3.1.1 and 3.1.2. The question whether a respondent is a utilitarian or an hedonic shopper (see paragraph 3.1.1) can be evaluated in different ways. These constructs are essentially the same as the constructs of run/goal/funshopping, since they both mention shopping motives. (see paragraph 3.1.1 again) so they are measured the same way. The first way is through survey questions 4 and 5. These questions describe the motives of the respondents. In other words, why are they in the inner city of Utrecht (question 4) and why are they in the specific research area (question 5)? The reason why these questions are both asked, is because, for example, a respondent can be in the inner city to shop for fun, while not necessarily being in the specific research area to shop. The respondent might just be passing through the area for example. For data analysis purposes however, only question 5 will be used.

The other way to measure shopping motives is by observing the amount of people that window shop. If one area has (significantly) more windowshoppers than the other, this might indicate that this area is more visited by people that shop for fun or are not looking to buy one specific item, but rather just browse around in shop windows. That is why the observation schedule includes the question whether an observee is window shopping or not. From figure 4.2 it is also clear that windowshopping is more of an optional activity, and not a necessary activity. These differences will be discussed in the next paragraph. Finally, the amount of observed people that actually enter a store are compared.

Necessary/optional/social activities

These constructs, like the other constructs under 'motives' are also measured by questions 4 and 5 of the survey. Respondents were given several options to choose from when asked why they were in Utrecht's inner city and in the research area. These things form a subdivision of necessary, optional and social activities in the following way:
Necessary activities
Daily groceries, looking for one specific product and work/study
Optional activities
Shopping for fun, a relaxing walk and using a café/bar/restaurant
Social activities
Meeting someone

To be more specific, anyone that has filled in daily groceries, looking for one specific product and/or work/study when asked for their motive, will be classified as necessary activities, etc.

Walking/standing/sitting

These constructs are relatively easy to distinguish with the observations. For each person that is observed, the fact whether he or she stands still in the area and/or sits down will be taken into account. Since the observations involve only pedestrians, walking is a premise, but in this way, the expectation that people predominantly only walk through area one while people also tend to stand still or even sit down more in area two can be tested.

Purposive/discursive walking
The difference between purposive and discursive walking is also measured using the observations. As is explained in paragraph 3.1.1 purposive walking involves a necessary activity and can be seen walking to a clear destination. Discursive walking, however, can be walking without a clear destination. The journey is more important than the destination in this respect (Wunderlich, 2008). The observation schedule includes walking direction. If an observee walks in a straight line, this can be an indication of purposive walking, while a person that is walking with a slight detour or with no clear direction, one can expect this person to practice discursive walking.

Approach/Avoidance behaviour
As is clear from paragraph 3.3, approach and avoidance behaviour relate to the affiliations people have with the environment. Therefore these differences can partly be explained in the same way as the constructs topophilia/topophobia. Another aspect of approach and avoidance behaviour, is the desire to stay in a place. Therefore these constructs will be further measured by the observations. More specifically, the walking speed will be used. When people have a significant tendency to walk faster in one area than the other, this can be an indication of more avoidance behaviour taking place in that area. The tendency to take detours, and to look around, can indicate approach behaviour, and when someone walks faster in an area, this might be an indication of avoidance behaviour, since that person want to leave an area as fast as possible.

5. RESULTS

5.1 General results

In this paragraph, the general sample population will be discussed. The amount of respondents per area and part of the week will be elaborated on, as well as the division of the research population in age and gender. This will be done twofold, namely for the observations and surveys, since the people that are observed and the respondents that filled in a survey are not the same people.

5.1.1 Observations

Number of respondents

In total, 492 observations were made. Table 5.1 shows how this amount is divided between the different areas and between the days of the week. As can be seen, the number of surveys filled in on each location is between 121 and 127, with about an equal divide between week days and days in the weekend.

Area	Weekend	Weekday	*Total*
Vredenburgplein	66	61	*127*
Achter Clarenburg	60	62	*122*
Mariaplaats	60	62	*122*
Zadelstraat	61	60	*121*
Total	*247*	*245*	*492*

Table 5.1: Amount of observed respondents per area and day(s) of the week

Age and gender

Figures 5.1 and 5.2 show how the total number of observations is divided between gender and age. As can be seen, there is a slight overrepresentation of males that are observed. This can be an indication of the fact that there were slightly more males in the research areas during the times of observation, since the observations were made at random. Still, the divide between males and females is about fifty-fifty.

In terms of age, the division is a bit less equal. The majority (23,4%) of observed pedestrians were believed to be between 25 and 35, while only 7,7% of the pedestrians were estimated to be above 65 years of age. This does not mean that this is the actual age of the observed population, but an estimation made by the observer. The fact that the younger segment is overrepresented could be an indication of the many students that live in Utrecht and the general trend that the population in cities is younger. With an exception of the category above 65 years of age, the age groups observed are divided fairly equally.
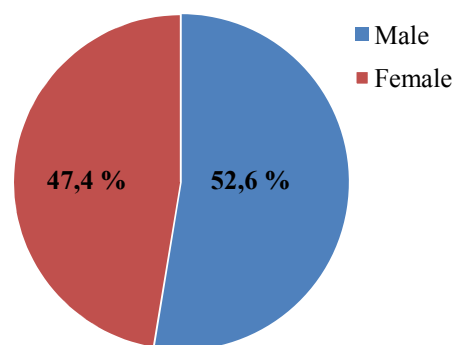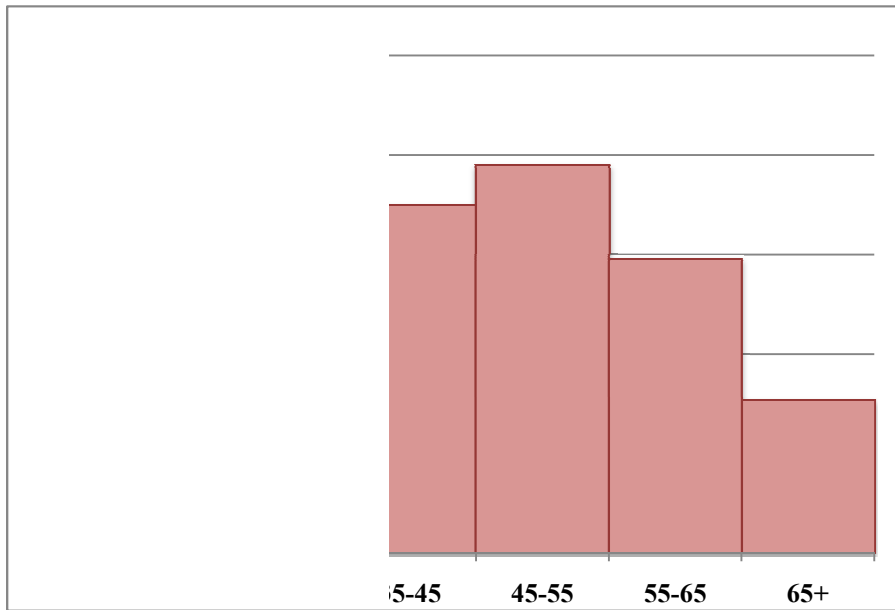

Figure 5.1: Division of gender for the observations

5-45	45-55	55-65	65+

sample

5.1.1 Surveys

Number of respondents
The total number of respondents that filled in a survey is 243. Table 5.2 shows how the amount of surveys undertaken is divided between the different areas and between the days of the week.

Area	Weekend	Weekday	Total
Vredenburgplein	31	31	*62*
Achter Clarenburg	30	30	*60*
Mariaplaats	30	30	*60*
Zadelstraat	30	31	*61*
Total	*121*	*122*	*243*

Table 5.2: Amount of survey respondents per area and day(s) of the week

In every area, the amount of surveys that is filled in is around 60. Also the surveys are divided equally between week days and weekends or each area.

Item non-response
Not all survey questions were filled out completely or in the right way by all respondents. When a response to a certain survey question is missing, this is called item non-response (Groves e.a., 2009, p. 208) Table 5.3 shows all variables with an item non-response of 1 or more, and the amount and percentage of non-response. The variables with no non-response are left out.

The non-response for the question whether the respondent is in Utrecht to meet someone can be explained by the fact that it was unclear to the researches what was answered here. The other variables that have a non-response are a series of variables, namely variables 23-28. This can be explained by the fact that it was unclear to some respondents how this set of questions should have been filled in. Since these questions contain a series of opposite statements (see appendix 2 and paragraph 4.4), some people might have been confused and thought they had to choose once, instead

of six times. Most of them then chose variable 26 (Atmospheric/not atmospheric). That's why this variable has the lowest non-response of this series of variables. However, the highest percentage of non-response is only 6.2% on a total of 243 surveys, so no reason to change anything in the database or in the way results will be analysed.
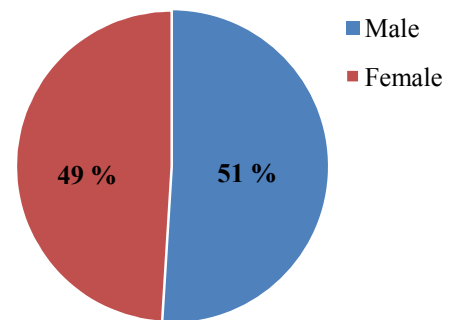
Variable	Non-Response	Percentage
9. Is respondent in Utrecht to meet someone?	1	0.4
23. Pretty / ugly	10	4.1
24. Exciting / boring	14	5.8
25. Colourful / bleak	15	6.2
26. Atmospheric or not	1	0.4
27. Historical / modern	7	2.9
28. Comfortable or not	15	6.2

Table 5.3 Non-Response analysis

Age and gender
Figures 5.3 and 5.4 show how the total number of respondents that filled in a survey is divided between gender and age.

Figure 5.3 shows how there is an almost equal division between male and female respondents, with only a slight overrepresentation (one percent) of male respondents. This trend is visible for the squares that were researched, while the shopping streets both have a slight female overrepresentation. No area has a remarkable overrepresentation however.

In terms of age, the division between survey respondents is less equal. As can be seen from figure 5.4, there is an overrepresentation of people in the age category 18-25. Especially in research area one with Vredenburgplein and Achter Clarenburg this was the case. This could be another indication of the amount of students living in Utrecht. It could also be

Figure 5.3: Division of gender for the surveys

an indication of the fact that people in this age category were most willing to fill in a survey, maybe because they know what it feel like to do quantitative research or because they have more time to fill in a survey. Apart from this however, the biggest reason is the general overrepresentation of this group in the research areas. The fact that this research is about the general visitors of the research areas, means that there is therefore no reason to weigh cases.
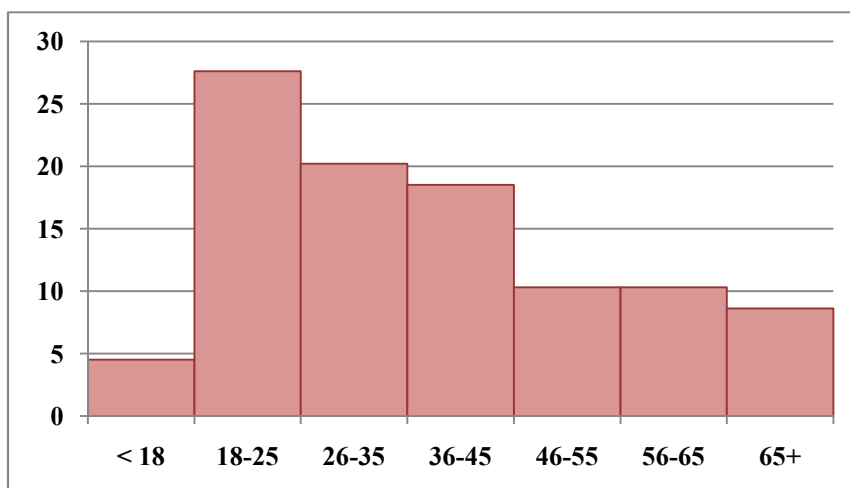
Figure 5.4: Division of age groups for the surveys in percentage of the research sample

Living in Utrecht?
One of the survey questions was whether the respondent lives in Utrecht or not. Table 5.4 shows the percentage of people living in Utrecht for each research area. There is a significant difference between the four areas and the amount of people living in Utrecht (Sig. = .021) (see appendix 3). The table shows how Mariaplaats has the highest share of people living in Utrecht, while the adjacent Zadelstraat has the lowest. In both areas, the square has the highest share of local population, while the streets have a lower share. This could mean that the shopping streets attract more people from outside, while the squares are more attractive for locals. Looking at the two broader research areas, area one, consisting of Vredenburgplein and Achter Clarenburg, has a slightly lower share of people from Utrecht than the other area. This could be explained because of the relative proximity of the entrance of Hoog Catharijne, leading to the train station.

Area	Share living in Utrecht (%)	Total
Vredenburgplein	48.4	
Achter Clarenburg	40.0	*44.3*
Mariaplaats	63.3	
Zadelstraat	37.7	*50.4*
Total	*47.3*	*47.3*

Table 5.4: Share of people living in Utrecht per area

Frequency of visits
In each area, respondents were asked how often they visited the inner city, and also how often they visited that specific street or square. The results are shown in table 5.5 and 5.6.

	Daily	Several times a week	Once a week	Several times a month	Once a month	Less than once a month
Vredenburg	12.9	21.0	9.7	19.4	9.7	27.4
Achter Clarenburg	20.0	10.0	10.0	6.7	5.0	48.3
Mariaplaats	33.3	20.0	5.0	11.7	5.0	25.0
Zadelstraat	16.4	8.2	18.0	9.8	3.3	44.3
Total	*20.6*	*14.8*	*10.7*	*11.9*	*5.8*	*36.2*

Table 5.5: Frequency of Utrecht's inner-city visits per area

	Daily	Several times a week	Once a week	Several times a month	Once a month	Less than once a month
Vredenburg	1.6	19.4	9.7	21.0	14.5	33.9
Achter Clarenburg	3.3	11.7	10.0	15.0	5.0	55.0
Mariaplaats	13.3	21.7	10.0	15.0	11.7	28.3
Zadelstraat	6.6	11.5	8.2	18.0	8.2	47.5
Total	*6.2*	*16.0*	*9.5*	*17.3*	*9.9*	*41.2*

Table 5.6: Frequency of visits of each research area

As can be seen, in both cases, the category "less than once a month" has the biggest share of respondents. That means that most respondents that filled in a questionnaire visit the inner city of Utrecht (36.3%) and the specific research areas (41.2%) less than once a month on average. This could mean that a lot of respondents that filled in a survey are visiting Utrecht as a day out, maybe from somewhere else. The results in table 5.4 about whether the respondents live in Utrecht partly support this fact, as well as the motives for visiting, presented in paragraph 5.3 Another striking fact is that while more than one fifth of respondents is in the inner city of Utrecht daily, only 6.2 percent of the respondents visited the research areas daily. The second broader research area, with Mariaplaats and Zadelstraat, had a higher amount of daily visitors than the other areas. The two squares are generally visited more often than the two streets.

5.2 Attitudes towards the environment

In this paragraph, the way in which the respondents value the environment will be discussed. This could be, as discussed in paragraph 4.6.1, an indication of tophophilia or topophobia. Respondents were presented with six statements about the attitude people have towards the environment, as described in paragraph 4.4.2. In this manner, the attitude towards all four environments can be measured on six different aspects, as well as those aspects taken together. Table 5.7 shows the score for each aspect per area. Important in this respect, are the fact that a score of one can be seen as the most positive score possible, a score of three can be considered neutral, and five is the most negative score possible.

	Pretty/ ugly	Exciting/ boring	Colourful/ bleak	Atmos- pheric	Historic/ modern	Comfort
Vredenburg- plein	3.39	3.60	3.39	3.16	3.50	3.17
Achter Clarenburg	3.10	3.78	3.00	2.73	3.03	2.52
Mariaplaats	1.66	2.95	2.31	1.87	1.88	2.20
Zadelstraat	1.79	2.88	2.13	1.77	1.73	2.20

Table 5.7: Respondents' attitude towards several components of each area

A higher score, means a more negative attitude towards the environment. As can be seen in table 5.7, Respondents in research area one (consisting of Vredenburgplein and Achter Clarenburg) have the tendency to be more negative than in research area two on every single aspect. Mariaplaats is seen as the prettiest area, while Vredenburgplein is considered the most ugly of the four. Zadelstraat is considered most exciting, most colourful, most atmospheric and most historic, so respondents seem to have the most positive attitude with this area. Vredenburgplein is related to the worst associations the most.

The average of all six aspects can be used as a Likert-scale to calculate the overall judgement of each area from the respondents. Before that, it needs to be sure that all statements have a sufficient internal consistency, to make sure all items correlate to each other. In other words, the total judgement can only be measured, if all aspects relate to each other well enough.

This internal consistency is measured using Cronbach's Alpha, and using SPSS, the Cronbach's Alpha for these six items together was calculated. The Cronbach's Alpha is 0,869, which is considered to be a good internal consistency. In other words, the six constructs together can be used to describe the general overall attitude of respondents for each area. This also explains why the statement historic/modern is included. One might argue that this is not necessarily positive or negative, but paragraph 2.4 has explained why this is considered the case in this research, as well as the high Cronbach's Alpha, and the fact that the Cronbach's Alpha would be lower (,858) if this variable would be deleted. The results for each research area are summarised in figure 5.5.

Again, keeping in mind that five is the most negative attitude, and one is the most positive, it is clear that Vredenburgplein is generally considered the least attractive area, while the Zadelstraat is the most attractive. On average, people are slightly more positive than negative (Likert score = 2,69), with both parts of area one considered worse than average, and both parts of area two better than average. The reason why there is no big difference between Vredenburgplein and Achter Clarenburg, as well as between Mariaplaats and Zadelstraat, can be explained by the fact that they share the same bigger area, as also shown in paragraph 4.2. That's why the comparisons that are made, are constantly made between the two bigger areas, and between the two streets and the two squares (which are in the two bigger areas).
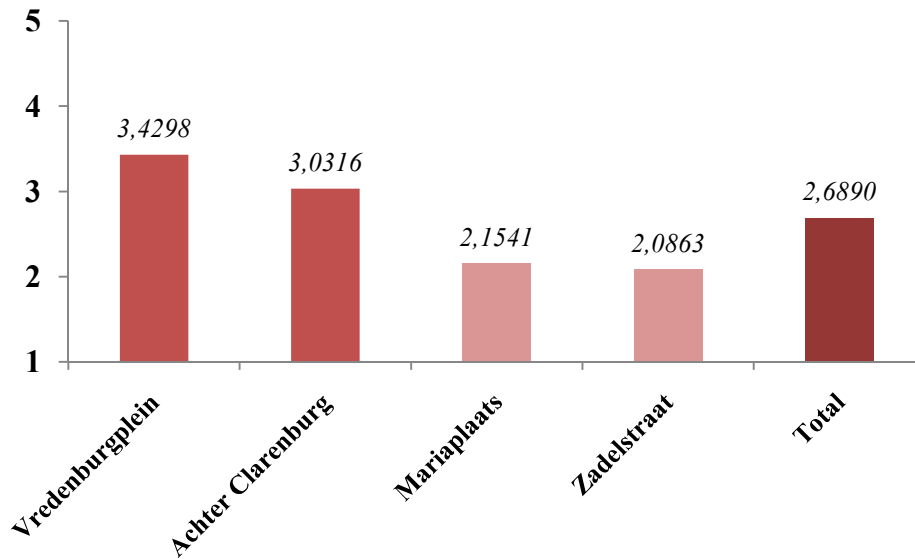
Figure 5.5: Total Likert-score for attitude towards the environment per area.

Therefore, to see if the differences in total Likert score are **significantly** different between the areas, three student T-tests have been done (see appendix 3). One to compare the two bigger areas, one to compare the streets and one to compare the squares. This is the way comparisons will be made throughout this entire chapter.

The average Likert score in terms of attitude towards the environment for research area one (Vredenburgplein/Achter Clarenburg) is 3.23, while this score for area two (Mariaplaats/Zadelstraat) is 2.12. According to the Student's T-test, these areas differ from each other significantly (Sig. = 0.00). This means, that with 95% confidence, **there is a significant difference in attitude towards the environment between the area Vredenburgplein/Achter Clarenburg and Mariaplaats/Zadelstraat**.

Looking at the street level, as well as square level, the same trends are visible, There is a significant difference between Vredenburplein and Mariaplaats, as well as a significant difference between Achter Clarenburg and the Zadelstraat (Sig. = 0.00 for both tests), which means that, again with 95% confidence, **there is a significant difference in attitude towards the environment between the Vredenburgplein and Mariaplaats, as well as between Achter Clarenburg and the Zadelstraat**.

To conclude, Mariaplaats is significantly generally better appreciated than Vredenburgplein, and Zadelstraat is significantly a better appreciated street than Achter Clarenburg. Furthermore, area two, with Mariaplaats and Zadelstraat combined, is significantly better appreciated than area one, which consists of Vredenburg square and Achter Clarenburg combined. This can form a background for the results discussed further in the chapter, since this research is about the influence of the environment on motives and behaviour.

5.3 Motives
This paragraph will explore the reasons for visiting each area and make comparisons where appropriate. In table 5.8 and 5.9 the reasons for visiting Utrecht's inner city as well as the reasons for visiting the particular area are presented, in relation to the research area.

	Underway (Outside inner city)	Daily groce-ries	Looking for specific product	Shopping for fun	Relaxing walk	Meeting someone	Restaurant /bar/café	Job/study	Other
Vredenburg-plein	16.1	4.8	29.0	51.6	19.4	22.6	33.9	12.9	9.7
Achter Clarenburg	6.7	3.3	21.7	31.7	11.7	10.0	30.0	28.3	15.0
Mariaplaats	15.0	5.0	18.3	41.7	28.3	27.1	30.0	28.3	15.0
Zadelstraat	11.5	8.2	39.3	42.6	32.8	9.8	21.3	13.1	18.0
Total	*12.3*	*5.3*	*27.2*	*42.0*	*23.0*	*17.4*	*28.8*	*16.9*	*14.8*

Table 5.8: Motives for visiting the inner-city of Utrecht, per area (in percentage of sample population)

As can be seen, almost half of the respondents were in the inner city of Utrecht to shop for fun. This is the biggest group. The smallest group of respondents were in the inner city for daily groceries, since only 5.3% of respondents gave that as their reason for visiting the inner city. For now it is not really relevant to mention these divisions per research area, but table 5.9 shows the reason why the respondents were in the specific research areas. This can give answer to the question if the general trends that are put forward in table 5.8 above are apparent in the specific research areas.

Within the research areas, shopping for fun is still the most important motive for visiting. However, this share almost halved, and now has to share the first place spot with people being underway to other parts of the inner city. Another striking thing is that the squares are used more for meeting people than the streets, and that the area with the Mariaplaats and Zadelstraat is used more for a relaxing walk. The other area is used more by people that are underway to a place outside the inner city of Utrecht, probably because of the proximity to the central station.

	Underway (Outside inner city)	Underway (Witin inner city)	Daily groce-ries	Looking for specific product	Shopping for fun	Relaxing walk	Meeting someone	Restaurant /bar/café	Job/study	Other
Vredenburg-plein	8.1	27.4	1.6	25.8	27.4	9.7	11.3	17.7	6.5	4.8
Achter Clarenburg	10.0	20.0	5.0	21.7	23.3	13.3	3.3	21.7	5.0	3.3
Mariaplaats	6.7	21.7	3.3	23.3	23.3	20.0	15.0	28.3	10.0	21.7
Zadelstraat	0.0	36.1	3.3	24.6	31.1	26.6	9.8	11.5	11.5	8.2
Total	6.2	26.3	3.3	23.9	26.3	17.3	9.9	19.8	8.2	9.5

Table 5.9: Motives for visiting each area (in percentage of sample population)

The last thing that is worth mentioning is the high amount of people that filled in 'other' at Mariaplaats. This can be explained by the fact that three respondents lived at the Mariaplaats, three respondents were there because they liked the square an two people were there to visiting a museum (they didn't say which one).

In terms of the differences discussed above, except for the reason 'other', which doesn't count because this category consists of different reasons, only the amount of people in the area for a relaxing walk differs **significantly**. For the bigger areas, area one (Vredenburg/Achter Clarenburg) has significantly less people there for a relaxing walk than the other area (Mariaplaats/Zadelstraat) with (Sig. = .016). The differences between the streets (Sig. = .075) and the squares (Sig. = .108) is however not significant in terms of people there for a relaxing walk.

Below, the different motives put forward in table 5.9 will be used to make a comparison between the areas in terms of necessary, optional and social activities.

Necessary/optional/social activities
Looking at the figure by Gehl (2011) in paragraph 3.1.2, one might expect the quality of the environment to have an influence on the three types of activities; necessary, optional and social activities. In this case this might mean that in the area with Vredenburgplein and Achter Clarenburg,

less optional and social activities are performed by respondents, since these areas are proven to be lower in quality (paragraph 5.2). The share of people performing necessary activities should then not differ between the areas.

The different motives as seen above in table 5.9 are recoded into necessary, optional and social activities as follows:

Necessary activities: Every respondent that was in the area for daily groceries, **or** to look for a specific product **or** for work/study.

Optional activities: Every respondent that was in the area to shop for fun, **or** for a relaxing walk, **or** to visit a bar/café/restaurant. Also the respondents that filled in *other, namely*, followed by optional activities like 'a day out' or 'visiting a museum'.

Social activities: The respondents that filled in they were in the area to meet someone. This category is a bit harder, since, as Gehl states (2011), these activities can be seen as a product of the two types of activities mentioned above and that social activities can arise spontaneously as a result of the way people move through space. Nevertheless, this category is added in table 5.10.

The reason that the amounts do not add up to 100%, is because not all respondents were able to be fitted in to one of these categories, like for example the respondents that were underway to other places.

	Necessary (%)	Total area (%)	Optional (%)	Total area (%)	Social (%)	Total area (%)
Vredenburgplein	30.6		45.2		11.3	
Achter Clarenburg	30.0	*30.3*	51.7	*48.8*	3.3	*7.4*
Mariaplaats	33.3		61.7		15.0	
Zadelstraat	34.4	*33.9*	52.5	*57.0*	9.8	*12.4*
Total	*32.1*	*32.1*	*52.7*	*52.7*	*9.9*	*9.9*

Table 5.10: Motives for visiting each research area, recoded into necessary, optional and social activities

First of all, no real striking differences are apparent between the four areas in terms of necessary activities. This is expected when following Gehl's schedule. According to the Chi² tests that have been done (see appendix 3), there are, with 95% confidence, indeed **no significant differences** found between the bigger areas (Sig. = 0.553), and also not between the two squares (Sig. = 0.750) and the two streets (Sig. = 0.602).

The conclusion has already been made that the area consisting of Mariaplaats and Zadelstraat is of a better quality according to the visitors, so one might expect these areas to have more optional activities going on. This seems true when looking at table 5.10, so the expectations put forward in paragraph 4.5 seem to be met for necessary and optional activities when looking at purely descriptive statistics. Statistically, however, there are **no significant differences** between both bigger areas (Sig. = 0.176) and also not between the squares (Sig. = 0.068) and the streets (Sig. = 0.930), with 95% confidence. For more details about these tests, see appendix 3.

For social activities, looking at the bigger areas in total, the expectations also seem to be true, since the area consisting of Mariaplaats and Zadelstraat has more people that are there to meet someone. Significantly however, with 95% confidence, there is **no difference** between the areas in total (Sig. = 0.190), on square level (Sig. = 0.544) or between the streets (Sig. = 0.272) (Appendix 3).

To conclude, there is no significant relation between the research areas and the amount of people performing necessary activities. This is according to Gehl's (2011) theory about the link between quality of an environment and the type of activities taking place, since the quality of the environment should not have an effect on the amount of necessary activities taking place. However, a better quality environment should account for more optional and social activities taking place, which is statistically not the case for these research areas.

The link can be made between whether a respondent performs a necessary, optional or social activity, and the average Likert score for attitude. In this way, it is possible to see whether a motive has influence on the attitude towards the environment. Table 5.11 summarises this relation.

Average Likert-score attitude	
Necessary activities	2.81
Optional activities	2.49
Social activities	2.50

Table 5.11: Average attitude towards the environment per activity type

The results presented in table 5.11 show that people performing necessary activities appreciate the environment less (higher average Likert-score). This does also not support the statements made by Gehl (2011), since necessary activities are less demanding on the quality of the environment, so people that are in an area for necessary activities could be less critical on the environment. The people performing optional and social activities should then be more critical, but table 5.11 shows the exact opposite. These differences cannot be tested on significance because of the nature of the data. The activity types, as explained before in this paragraph are not one variable but three dichotomous variables with cases overlapping. For example, a person that performs a necessary activity can also perform an optional activity.

Nonetheless, these results only say something about the *motives* for visiting the areas as indicated by the respondents themselves, and not about the actual behaviour that is observed. The next paragraph will go into further detail about these results.

5.4 Behaviour

This paragraph will discuss the observed behaviour of the respondents in the research areas. First, the tendency to stand still and/or sit will be discussed, followed by the walking behaviour of respondents. In this way, constructs like approach and avoidance behaviour will be compared between the areas and tested on significance where appropriate.

5.4.1 Standing and sitting

Out of the 492 people that were observed, 118 stood still in the area (24%) and only 11 people sat down (2.2%). Table 5.12 offers an insight in how these people were divided over the research areas.

	Standing (%)	Total area (%)	Sitting (%)*	Total area (%)
Vredenburgplein	18.9		2.4	
Achter Clarenburg	15.6	*17.3*	0.0	*1.2*
Mariaplaats	22.1		4.9	
Zadelstraat	39.7	*30.9*	1.7	*3.3*
Total	*24.0*	*24.0*	*2.2*	*2.2*

Table 5.12: Share of people standing and sitting, per research area *Private and public seating are taken together*

In the first area, people tend to stand still less and also sit down less than in the second area. Looking at paragraph 5.2, one could argue that an environment that is considered to be of a higher quality, evokes behaviour like standing still or sitting down, since the areas were people stand still and sit down more, are also the areas that are appreciated more by visitors.

The amount of people sitting down however, is negligible. As can be seen from the function map, the research area were people sit down most, Mariaplaats, is also the area that offers the most public seating. The slight differences are therefore mostly caused by seating opportunities. In terms of sitting it is therefore appropriate to once again point back to William Whyte (1988 in *The City Reader*, 2011, p. 510-517), as also put forward in paragraph 2.3.3, that *people sit where there are places to sit*.

Standing, however, is a different thing. As Gehl (2011) already mentioned (paragraph 2.3.1) it is a thing that is less demanding on the physical environment. Standing still is for example easier to do

everywhere than sitting down. Table 5.12 shows how in general, more people stand still in the area with the Mariaplaats and the Zadelstraat. In this area 30.9% stood still in total, while only 17.3% did so in Vredenburgplein and Achter Clarenburg taken together. These differences are apparent for the squares as well as the streets. Vredenburgplein has a smaller share of people standing still than Mariaplaats (18,9% vs. 22.1%) and Achter Clarenburg has less than half of the share of people standing still than the Zadelstraat (15.6% vs. 39.7%).

To see if there is a significant difference between the two bigger areas, as well as between the squares and between the streets, three Chi-square tests have been done, which can be fully seen in appendix 3. Both the bigger areas (Sig. = .000) and the two streets (Sig. =.000) **differ significantly** from each other with 95% confidence, in terms of whether people stand still in the area or not. In this case, the two squares **do not differ significantly** from each other (Sig. = .527).

5.4.2 Walking behaviour

A lot can be said from walking behaviour. The observations undertaken for this course included walking speed, walking direction and also the tendency to look around during their visit.

Walking speed

First, the speed in which pedestrians walked will be discussed. This was based on the argument that people adjust the speed in which they walk according to their environment. Paragraph 2.3.1 has explored the way in which the environment influences walking experience. Table 5.13 summarises the relation between the research areas and the tendency of the pedestrians there to walk slower or faster.

The Zadelstraat has the biggest share of people walking slower, while Vredenburgplein has the biggest share of people walking faster. The expectation that area one in general has more people walking faster and area two in general has more people slowing down also seems to be confirmed. For the squares however, this is not true.

	% of people walking slower	Total area (%)	% of people walking normal speed	Total area (%)	% of people walking faster	Total area (%)
Vredenburgplein	8.7		84.3		7.1	
Achter Clarenburg	4.9	*6.8*	91.0	*87.6*	4.1	*5.6*
Mariaplaats	7.4		90.2		2.5	
Zadelstraat	14.9	*11.1*	78.5	*84.4*	6.6	*4.5*
Total	*8.9*	*8.9*	*86.0*	*86.0*	*5.1*	*5.1*

Table 5.13: Walking speed per area

Vredenburgplein has more people walking faster, but also more people slowing down. To see if the differences that are found are significant, chi-square have been done (appendix 3). From these tests, the result came forward that, with 95% confidence, there are **no significant differences** in walking speed between the bigger areas (Sig. = .228) and the two squares (Sig. = .208). For the two streets however, there **was a significant** difference in walking speed with 95% confidence (Sig. = .019). Looking at table 5.13, this significant difference mainly seems to come from the fact that more people tend to walk slower in the Zadelstraat, and less so from the share of people walking faster in the Zadelstraat. To test these findings significantly, two, more detailed, chi-square tests have been done, which also can be seen in appendix 3. These tests showed that the amount of people walking slower in the Zadelstraat is indeed, with a confidence of 95% **significantly higher** (Sig. = .007) while the amount of people walking faster is **not significantly higher** (Sig. = .288).

This means that in the case of walking speed, only the Zadelstraat and Achter Clarenburg differ significantly from each other. To be more precise, this is because significantly more people in the Zadelstraat have the tendency to walk slower.

Walking direction

The direction in which people walk can also see something about the relation between the environment and the visitor. This can be an indication of purposive or discursive walking as put forward by Wunderlich (2008, p. 131-132) and discussed in paragraph 3.1.1. As also explained in paragraph 4.6.1, if an observee walks in a straight line, this can be an indication of purposive walking, while a person that is walking with a slight detour or with no clear direction, one can expect this person to practice discursive walking. Table 5.14 summarises walking directions per research area.

	Straight line (%)	Total area (%)	Detour* (%)	Total area (%)
Vredenburgplein	77.2		22.8	
Achter Clarenburg	83.6	*80.3*	16.4	*19.7*
Mariaplaats	77.9		22.1	
Zadelstraat	59.5	*68.7*	40.5	*31.3*
Total	*74.6*	*74.6*	*25.4*	*25.4*

Table 5.14: Do respondents walk in a straight line or not? Per area
'Slight Detour' and 'no clear direction' are taken together

Apparent from the table is that Achter Clarenburg has the most pedestrians that walk in a straight line (83.6%), so this could mean that this area invokes the most purposive walking, while the Zadelstraat has the most discursive walkers (59.5%). This is statistically proven with at least 95% confidence by a chi-square test (Sig. = .000)

In general, the first area seems to have more purposive walking, while the second area has more discursive walking. The chi-square test here also proves this difference is **significant** with 95% confidence, with (Sig. = .010). See Appendix 3 for the SPSS tables for these tests. There is no difference in purposive/discursive walking between the two squares, so this is not tested on significance.

In short, there is a tendency towards more purposive walking in area one, and more discursive walking in area two. This difference manifests itself on street level. The found differences are in accordance with the expectations put forward in paragraph 3.1.1.

5.4.3 Looking around

The amount of people that look around during their visit in each of the research areas has also been observed. When people look around when walking or standing still, this could mean they enjoy the environment more than when they don't look up or down and just look straight ahead. And even if this doesn't necessarily mean more or less enjoyment, it says something about the relation between environment and behaviour. Table 5.15 shows the share of pedestrians looking around for each research area.

When comparing the two streets and the two squares with each other, it is clear from the table that Mariaplaats is a square that evokes more people to look around (77.0%) than Vredenburgplein (62.2%) and that Zadelstraat has a higher percentage of people looking around (82.6%) than Achter Clarenburg (59.0%). This also means that area two in general has more people looking around than area one.

	Looking around (%)	Total area (%)
Vredenburgplein	62.2	
Achter Clarenburg	59.0	*60.6*
Mariaplaats	77.0	
Zadelstraat	82.6	*79.8*
Total	*70.1*	*70.1*

Table 5.15: Share of pedestrians looking around per area

When tested on significance using chi-square tests (appendix 3), these differences are all **significant**, with the two squares and the two bigger areas having (Sig. = .000) and the two streets (Sig. = .011),

all with a confidence level of 95%. In other words, this means that the area consisting of Zadelstraat and Mariaplaats (area two) invites more people to look around while visiting. This could be related to the fact that this area is better appreciated (for example in terms of aesthetics) than the other area (see paragraph 5.2).

5.4.4 Shopping behaviour

Windowshopping
Windowshopping is an important part of this research area, since it is a clear indication of shopping behaviour. Streets that evoke windowshopping can be an indication of more funshopping, and are also considered an optional activity, according to figure 3.2. The amount of people windowshopping is therefore related to the environment and the quality of the environment in which this does or does not take place.

	Windowshopping (%)	Total area (%)
Vredenburgplein	11.0	
Achter Clarenburg	23.0	*16.9*
Mariaplaats	17.2	
Zadelstraat	56.2	*36.6*
Total	*26.2*	*26.2*

Table 5.16: Share of people windowshopping for each area

First of all, the shopping streets have a lot more windowhoppers than the squares, as can be seen in table 5.16. This is not surprising because of the fact that the streets have a lot more shops and people tend to walk closer past them (see figure 4.4 and 4.7). In both cases however, the share of windowshoppers is higher in area one than in area two. This also means that in general, area one has a lower share of windowshoppers (16.9%) than area two (36.6%). Statistically speaking (appendix 3), this relation is **significant** with 95% confidence (Sig. = .000). On square level this is not the case. The relation between windowshopping or not, and Vredenburgplein and Mariaplaats is **not considered significant** (Sig. = .160). However, in terms of windowshopping, the streets might me more interesting than the squares, and this relation **is significant** (Sig. = .000).

This means that area one in general has more people that windowshop than area two, and that this is mainly caused by the shopping streets, where, in the Zadelstraat, more than half of the pedestrians windowshop, while this is only 23% for Achter Clarenburg.

Entering Store
But does this mean that area two also has more people actually entering stores? People windowshopping do not necessarily enter stores, and entering a store can also be an indication of goalshopping. To see if the environment however still has an influence on the amount of people entering a store, this was part of the observations. The results are summarised in table 5.17.

	Entering store (%)	Total area (%)
Vredenburgplein	4.7	
Achter Clarenburg	15.6	*10.0*
Mariaplaats	2.5	
Zadelstraat	19.0	*10.7*
Total	*10.4*	*10.7*

Table 5.17: Share of people entering a store for each area

Just like with the windowshoppers, the streets have a higher percentage of people entering stores than the squares. Looking at the function (figure 4.4 and 4.7) again, this can be considered a logical fact. Again, comparable to the shares of windowshoppers, in general, area one has a lower share of people entering stores (10.0%) than area two (10.7%). These differences are however quite small. This is because, unlike with windowshoppers, Vredenburgplein actually has a higher share of people entering stores than Mariaplaats. Zadelstraat has a higher percentage of people entering stores than Achter

Clarenburg, accounting for the small majority for area two in total described above. As can be seen, these differences are quite small, and not surprisingly, **none of these slight differences are significant** (See appendix 3) with (Sig. = .810) for the bigger areas, (Sig. = .270 (one-sided)) for the squares and (Sig. = .479) for the streets.

This means that in terms of people actually entering stores, there is not a big difference between the research areas. As put forward in paragraph 3.1, however, this is because there are different forms of shopping, and in terms of people entering stores, this can mean that this person either enters a store as for example a funshopper or a goalshopper. The fact however, that area two has more windowshoppers, but not more people entering stores, can be an indication of more hedonic shoppers in area two, while area one has more utilitarian shoppers (see paragraph 3.1.1).

It is therefore interesting to see if there is a difference in amount of people entering stores between people who stand still and people who do not stand still. When this does not turn out to be different, this could indicate that the people entering stores are just as much hedonic as utilitarian shoppers. Of the people standing still, how much people have the tendency to enter stores? Table 5.18 shows these results.

	Entering store (%)	Not entering store (%)
People standing still	20.3	79.7
People not standing still	7.2	92.8

Table 5.18: Comparing people standing still and entering a store

It is clear from table 5.18 that people standing still tend to enter a store more often. There are significantly more people entering a store among people that stand still than people that don't stand still (Sig. = .000) (see appendix 3). This could mean that people actually entering stores are mostly hedonic shoppers, since they stand still more, and therefore seem less goal-oriented.

5.4.5 Social behaviour

Company
Lastly, the social behaviour of the environments is tested. The question if people tend to be alone, with someone else, or in a bigger group in the areas could give an indication of the social environment. Since Gehl (2011)(figure 3.1) argued that the quality of the environment (paragraph 5.2) can have an influence on the amount of social activities taking place in a public area, a place of a lower quality could mean more people are alone in this area. The other way around this could mean that an area of higher quality has more people that are there together or in groups. To test these differences, the observations included the amount of people the pedestrian that was observed was with at that moment. The results can be seen in table 5.19.

	Alone (%)	Total area (%)	With one other (%)	Total area (%)	With more than one other (%)	Total area (%)
Vredenburgplein	48.8		40.2		11.0	
Achter Clarenburg	39.9	*44.2*	50.8	*45.5*	9.8	*10.4*
Mariaplaats	39.9		50.8		9.8	
Zadelstraat	37.2	*38.3*	52.1	*51.4*	10.7	*10.3*
Total	*41.3*	*41.3*	*48.4*		*10.4*	*10.4*

Table 5.19: Company of observed pedestrians, per area

The differences here are not that apparent. It is clear that area one in total has slightly more people that are alone than area two. Area two therefore has more people that are together with the two of them. Bigger groups seems to be equally divided over the two areas, so no clear differences there. The only other thing that stands out is Vredenburgplein, while the other three research areas are more or less divided in the same way. Statistically speaking, using chi-square tests, the (minor) differences

found between total area one and two, and also between the squares, are **not significant**. The streets are not tested on significance, since they do not differ from each other in terms of company.

Interaction strangers
Another thing that was part of the observations, is the interaction of the pedestrians with strangers they ran into, but this turned out to be so little that any form of analysis is obsolete. Almost no interaction took place between strangers in any of the research areas.

5.4 Conclusion
With 243 pedestrians surveyed and 492 pedestrians observed in two areas both consisting of a square and a shopping street, the following results have been found.

Area one is significantly less appreciated than area two, in terms of aesthetics, thrill, colour, atmosphere, historic quality and comfort. At a more detailed level, this relation is also apparent when comparing the two streets with each other, as well as the two squares.

Does this mean that people visit these areas with different motives? Although area two does have significantly more people that are there for a relaxing walk, when grouping the motives in necessary, optional and social activities, there seems to be no significant relation between the area and motives.

However, these results only say something about the *motives* for visiting the areas as indicated by the respondents themselves, and not about the actual behaviour that is observed. In that case, there are definitely some significant relationships between area on the one hand, and observed behaviour on the other. Area one, for example, has significantly less people standing still in the area than area two. This is mainly because people tend to stand still significantly more often in the Zadelstraat than Achter Clarenburg. This could be reasoned back to the fact that pedestrians appreciate thes area better, therefore they are inclined to spend more time standing there.

Whether this also means that pedestrians have a tendency to walk slower in area two and walk faster in the other one, was also researched. This is only significantly apparent when comparing the two streets, in the sense that significantly more people walk slower in the Zadelstraat than Achter Clarenburg.

Walking speed is not only the only type of walking behaviour that is observed. A distinction can be made between discursive and purposive walking (Wunderlich, 2008, p. 131, 132). Is there a difference between the areas and these 'types' of walking, just like there is a difference in walking speed? Looking at the share of pedestrians that are willing to take a detour or do not have a clear direction on the one hand and the pedestrians walking in a straight line, there is significantly more discursive walking taking place in area two. Yet again, however, this only manifests itself at street level.
With walking behaviour covered, other behaviour was also observed. Significantly more observed pedestrians look around while in area two, in general, but also when comparing the two streets as well as comparing the two squares. This means that the environment in area two evokes people to look around more, which can be traced back to the better (in this case aesthetic) quality of this environment.

In terms of approach and avoidance behaviour (paragraph 3.3) it is argued from this results that area one does not necessarily have more avoidance behaviour, but area two does have significantly more approach behaviour in the sense of more people standing still, looking around, and taking small detours within the area.

Especially in the shopping streets, these results must also be linked to shopping behaviour. Does the area of better quality, that has been proven to invite more people to discursive walking, walking slower and standing still more, also evoke more windowshopping for example? And people actually entering stores? In terms of windowshopping, this is the case. People have a significantly higher tendency to windowshop in area two, and again, on more detailed level this is only true for the streets

and not for the squares. In general, it is more relevant to look at the streets in terms of shopping behaviour, since the function maps in paragraph 4.2 (figure 4.4 and 4.7) show that the squares have far less shops and give pedestrians more space to walk, meaning they don't necessarily need to walk past stores. The streets are therefore more relevant since they force pedestrians to walk past store windows. In this sense still, area two is more popular for windowshopping.

In terms of people actually entering stores, there is no noteworthy difference between the research areas. As put forward in paragraph 3.1, however, this is because there are different forms of shopping, in other words, the amount of people entering stores does not say anything about the type of shopping taking place. The fact however, that area two has more windowshoppers, but not more people entering stores, can be an indication of more hedonic shoppers in area two, while area one has more utilitarian shoppers.

Social environment was also considered relevant for this research (see paragraph 2.5). The amount of people the observed pedestrians were with, as well as their interaction with strangers in the area, were part of the observations. In terms of interaction with strangers, the results were that in all areas, there was very little to no interaction at all. In terms of the company of the observed pedestrians, there were no significant differences between the research areas.

6. CONCLUSION AND DISCUSSION

6.1 Conclusion

Cities have changed over the past decades. Where they were places of production throughout the twentieth century, the post-industrial society made sure other topics were high on the agenda of urban policymakers. Cities have become places for consumption and, especially in Europe, this consumption has historically manifested itself most in city centres. Especially in North America and Western Europe, countries are no longer dependent on their industrial capacities, but changed towards societies dominated by the tertiary sector (Savitch e.a., 2002, p. 1).

The change of city centres from places of production to places of consumption has brought forward a competition between cities in the Western world (Duffy, 1995). Cities put forward certain images to attract visitors that spend time and, perhaps more importantly, money in their centre. Cities are looking more alike, while urban policy makers try to sell their city and attract visitors. This constitutes for a kind of paradox in which cities are trying to stay recognisable for visitors, while at the same time trying to offer a sort of uniqueness to attract visitors (Spierings, 2009).

The physical and aesthetic environment of the city is important in this respect. It can have an influence on certain choices people make and action people will undertake. For example on walking, standing and/or sitting (Gehl, 2011). It can influence the meaning of the city as well, as well the way people see the city. City planners therefore try to evoke a positive *aesthetic response* to the city (Nasar, 1994).

The final aspect that is discussed in this chapter is the social environment. When people visit an (inner) city, they can encounter different types of strangers, accounting for different feelings and behaviour. Some of those strangers can evoke fear, and the amount of fear one has can be linked to the identity of that person as well as the identity of that 'feared' stranger (Pain, 2001). Therefore the social environment is influenced and shaped by other people, not only the people a person is together with, but also strangers.

After analyzing the environments, handing out surveys and observing pedestrians in two different parts of Utrecht's inner city, the relationship between environment and behaviour in these parts can be explained. Area one, consisting of Vredenburgplein and Achter Clarenburg, is considered of a lesser quality by respondents on different characteristics, like aesthetics, historic quality and atmosphere, than area two, consisting of the Mariaplaats and Zadelstraat. One could therefore argue that the second area, provides a more positive *aesthetic response* as mentioned above, and also provoke different behaviour than the other area. This indicates that area two has more tophophilia, while area one, which is appreciated less, has more topophobia, as was expected in paragraph 4.5.

In terms of this behaviour, this has a lot to do with the motives of visitors. In this respect it is relevant to ask if the visits are necessary or optional (Gehl, 2011). Necessary visits to the inner city can be associated with goal-oriented activities such as purposive walking (Wunderlich, 2008), utilitarian shopping (Kemperman, 2009) and goal/runshopping (Evers e.a., 2014). Optional activities are based more on free will and free time and can result in discursive walking (Wunderlich, 2008), hedonic shopping (Kemperman, 2009) and funshopping (Evers e.a., 2014). Gehl (2011) argues that the perceived quality of public space influences the amount of optional activities that take place, while necessary activities are performed independent of the quality of the environment.

Behaviour is also influenced internally by attitudes towards an environment, past experiences and the knowledge an individual possesses. This partly explains why behaviour is unpredictable and why it is difficult to translate these 'embodied experiences' into observable behaviour. This does not mean that there is no relation between behaviour and physical environment, or behaviour setting (Mehta, 2009).

When looking at these behaviour settings, and using the data gathered from this research, the environment did not really have an influence on motives (which respondents filled in on the survey)

for visiting the area. There were significantly more people in the second area for a relaxing walk than in the first area, but in terms of for example fun shopping, or visiting a place to have a drink or eat something, there were no significant differences between the areas. When recoding these motives into earlier mentioned necessary, optional and social activities (Gehl, 2011), no significant differences were found as well. For necessary activities this was expected, for the other two it wasn't.

The observations that were undertaken, however, told a different story. Pedestrians do behave differently between the areas that are researched. In the area that is appreciated more by visitors, area two, people tend to stand still more often and this is mainly seen on street level. Area two had a significantly higher share of discursive walkers, while area one had more purposive walking (Wunderlich, 2008). The fact that people seem to walk slower and stand still more in area two, can indicate that there is more approach behaviour taking place in that area than in area one.

In terms of shopping behaviour that was observed, area two also evokes more windowshopping. These trends were mainly seen on street level and less so between the two squares. In other words, observations have shown that, especially between the streets, area two evokes more behaviour that can be expected from a more historic, better looking, colourful, more atmospheric and more comfortable environment. More windowshopping can be an indication of more funshopping taking place, while less windowshopping can indicate more run and-goalshopping taking place. With the amount of people entering the stores being the same for each area, while area two has more windowshoppers, the expectation that area one has more gun and-goalshopping taking place while area two has more funshopping, seems to be met. This is also true for hedonic shopping in area two and utilitarian shopping in area one, looking at these facts. However, there does seem to be a significant relationship between standing still and entering a sotre, which can in turn indicate more hedonic shopping taking place.

People might not be aware of their behaviour, and the behavioural differences mentioned above might be evoked regardless of what people plan on doing, since motives have not proven to be significantly different while most behaviour has. For example, funshoppers in one shopping street can show more 'shoppping behaviour' than in another street, while shopping is still the motive. It is argued here that this is because of the direct environment of this street. People need to be stimulated by their environment to perform certain behaviour. It is not enough to attract, for example, shoppers. These shoppers, once attracted, need to find themselves in an attractive environment so that they don't just walk through a street without looking around, or standing still to windowshop. This is especially true nowadays, with city centres being more than just places to consume, but also places to create identity and meaning.

6.2 Recommendations
This paragraph is twofold, recommendations for policy makers will be first mentioned, followed by recommendations for further research.

First of all, recommendations for policymakers could be that while streets and squares are visited in Utrecht's inner city by people that are there to shop, regardless of the environment. When it is a goal to evoke something more than just visits, for example people actually taking time to explore the street or square, it might be recommended to invest in that environment, since a street (especially) or a square, or a general part of an inner city, can certainly influence behaviour by the way it is appreciated by visitors. This research showed that an environment that is appreciated more by visitors, on all aspects, invites these visitors to stand still, look around, look into store windows and take detours.

Recommendations for the municipality of Utrecht, and perhaps also for other bigger cities that already attract visitors, is to focus less on attracting people to the city and more on stimulating visitors to stay and also come back to the city. Since this research showed that, for Utrecht, people will come to the city regardless of the direct environment of some streets and squares, it is important for those involved in city planning as well as city marketing to focus more on what people do when they are in the city.

Do they just walk in a straight line without stopping or is it also important for those visitors to take in the environment and feel a certain pleasant *aesthetic response*? This is where the challenge lies for city planners. It is not always possible and certainly not easy to create a certain pleasurable enjoyable environment in the city, but it is possible to guide people to where these environments are created, since (as this research shows) people will appreciate it more and also express that in the form of certain behaviour patterns. Streets and squares that are considered more as less pleasant seem to be used solely as place for passing through, so this pattern should be accommodated when it is not possible to change these places in terms of built environment and *aesthetic response*.

Asking people about their motives does not account for the same insights as actually observing them. What people say they do, is not necessarily what they actually do. This is a recommendation for researchers. Actually studying and observing what people do seems to give more answers than solely asking them about it. Survey questions should only be used for information that cannot be directly observed, like motives and experiences. This is also what has been done for this research, and the conclusions found could not be found by just using survey data, as well as by just using observation data. When behaviour forms the basis for research, it is of importance that different methods are used, to form a complete picture. Not just about behaviour, but also about underlying motives and attitudes people might have.

Research like this can be done to specifically test shopping behaviour. Longer observations and more detailed surveys could be focused on if people buy things, what they buy and how much money they spend. This is more detailed than this research, and could help and explore the relationship between environment and buying behaviour, since this research only touched upon some shopping behaviour but not on what people actually bought.

More different areas can be compared within a city in this way, or maybe even two inner cities can be compared with each other. It was not possible in this research to do more extensive research (as will be discussed in the next paragraph) but if this were possible, two different inner cities can also be compared on the themes touched upon in this research. An example is a comparison between a historic city, and a more modern, newer city, to see if the results that are found here on a smaller scale are also valid on a bigger scale.

6.3 Reflection

The conclusions put forward in this chapter, are only applicable to the actual research areas. They can form an indication about parts of Utrecht's inner city and also about other cities, but the results here are not generalisable, only the general trends. However, this was inevitable, especially with the time and resources that were offered in this case. Another disadvantage is that there is no database about visitors of the research areas, so it is not really sure whether the sample population is divided the same as the actual population, all visitors of the research areas. This is another reasons all results are indications, instead of hard facts.

Another limitation for this research was the fact that the survey data and the observation data could not be directly linked together. The people that were observed were not the same people that filled in a survey. That is why, statistically, survey results could not be linked to observation results, but only be linked indirectly as indications. The fact that area two is better appreciated can be not directly tested against the fact that this area has more people standing still, for example. This can only be done when the people that are observed are also the people being surveyed. This would need more than one researcher at the research area at the same time, something that was not possible for this research.

In an ideal case, external influences like the weather, were kept the same for every respondent. While the weather effects were generally not very big, a research like this is still impossible to be done in the exact same conditions for each case. However it can be, and has been, taken into account as much as possible. The times at which observations and surveying took place, was roughly the same for each area, so the results presented in this research only say something about behaviour at these times of the day (see paragraph 4.3). It might have been interesting to compare behaviour for different times of the

day, but that was not the focus of this research. Shopping behaviour, as already put forward in the previous paragraph, could be more detailed, in terms of finding out if and what people buy. The observations turned out to be not long enough for this, and the surveys did (deliberately) not go into too much detail about what people bought and how much money they spent. If this information was part of the research data, this research could have been more complete in terms of including buying behaviour with shopping behaviour, instead of only researching types of shopping behaviour.

Lastly, the behaviour types that were observed, could not directly be taken from the literature, since the literature only covered general types and categories of behaviour. This would need more scientific literature that actually states what types of observable behaviour fit these categories. I still tried to do this as well as possible, and I believe the links that are made to be as logical as possible, considering these facts. While this research has made an attempt to do so, more research like this is needed, to establish a literature base from which observation schedules can be deducted. That is why it was hard to make a link between these categories and the behaviour that was observed.

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