

Sense of place in the city centre of Nijmegen

A quantitative study on the most important factors influencing sense of place and to what extent this sense of place is a reason to visit the city centre



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Preface

In front of you is the final result of my master's thesis for the master's degree in Human geography and with the specialisation Economic Geography at Radboud University. After 1.5 years, this research is the finalisation of my master. These were special times when I got to write this thesis with a start of writing in a lockdown, but the completion in a time without a lockdown. I saw writing this thesis as the coming together of all the knowledge I have gained over the past years while studying. This research is a combination of aspects of the study that I found very interesting from the bachelor and with more in-depth information from the master's subjects. Looking at the topics of most of my research like my bachelor's thesis and this master's thesis, it is striking that the city centre is a recurring topic. I find it very interesting why inhabitants like to come to the city centre even in these times with the growth of online shopping. We now know that many purchases are made online, yet the city centre has a certain meaning or sense of place that makes people still like to visit the city centre. I therefore found it very interesting to find out which factors contribute most to this sense of place and whether this sense of place influences the frequency of visits.

I would like to thank several people who helped me write this master's thesis. I certainly could not have conducted this research without my supervisors. I would first like to thank my thesis supervisor Martin van der Velde for all the feedback and ideas I have received over the past year. This research is in collaboration with the consultancy firm DTNP. I had the opportunity to do an internship here for four months in which this research was central. I was able to learn a lot here about working at a consultancy firm, but also about writing research about a city centre. I would therefore like to thank my internship supervisor Pieter Bos for helping me with the subject and conducting the research. Also, the feedback was always very valuable. I would also like to thank Rik Eijkelkamp, not only for the internship, but also for the good ideas for this research.

Abstract

City centres are important to many people. Besides being an important attraction for people from outside, the city centre is also appreciated by its own inhabitants. Due to the many functions, many people have a reason to visit the city centre. At the same time, city centres are facing many challenges recently, with the financial crisis, the advent of online shopping and the pandemic due to the Covid-virus. While all the shops and restaurants were closed during the strict lockdown, people continued to visit the city centre. From this one can conclude that the city centre has a certain significance for inhabitants because they attach a sense of place to it. City centres remain relevant places that are still visited even when the main reason such as shopping is temporarily not possible. This meaning has not only to do with shopping but several factors influence this sense of place. In this research the term sense of place is explained as the attachment or emotional bond people have with a place or the meaning one attributes to such areas (Kaltenborn & Williams, 2002). This research has figured out which factors contribute most to this sense of place and to what extent this sense of place is a reason to visit the city centre. The main question central to this research is: What are the most important factors that contribute to a sense of place in the city centre for inhabitants and to what extent is sense of place a reason to visit the city centre?

For this research, about 400 online surveys were used. In this research, the city centre of Nijmegen is used as a case study and the respondents are the inhabitants of Nijmegen themselves. Nijmegen is a city of about 180,000 inhabitants located in the province of Gelderland. This research will be useful for city centres so that more information is known regarding the meaning of the city centre for inhabitants and what makes the city centre an important place.

Sense of place does not arise overnight and is influenced by a number of factors. According to early qualitative studies, a sense of place was dependent on the depth of experiences in the physical settings and social relationships with settings (Tuan, 1980; Relph, 1976). Research by Eisenhauer et al. (2000) shows that places have a special meaning when it has family and friends related features or with certain physical characteristics of a place. In literature that came out later such as Turner and Turner (2006), physical and social settings were also mentioned, but they also included the affect and meanings based on personal memories and associations, and activities afforded by the place. Including memories and associations as a factor for sense of place is an important addition. "Place results from our experience of a space, our memories and emotional attachment to that space and the meanings we attach to it" (Turner & Turner, 2006, p216)

According to Jorgensen and Stedman (2001) and Deutsch and Goulias (2009) there are three aspects with places that appear consistently in environmental psychology literature; place attachment, place dependence and place identity. Firstly, place attachment can be defined as a (positive) bond that develops between a person and their environment (Altman & Low, 1992). Place attachment involves emotions, cognition and practice (Vorkinn & Riese, 2001). These emotions contain affect and feelings people have with a place and are the basics of the characteristics of human beings (Bowlby, 1988). Secondly, place dependence is thought of as the "perceived strength of association between a person and a place" (Stokols & Shumaker, 1981, p.457). This is a functional connection based specifically on the individual physical connection to a place (Raymond, Brown & Weber, 2010).

Lastly, Place identity is a person's identity with relation to the physical environment (Proshansky, 1978). Place identity refers to people's (emotional) bond with places.

Beside these different factors that influence a sense of place, the frequency of visits and personal characteristics also have an influence on the relation with a place. According to Tuan (1980) the strong emotional feeling towards a place is a product of repeated place interactions and experiences. By visiting a place more often this emotional feeling and bond can be created. But also personal characteristics like age, gender, culture and the number of years living can play a significant role in forming a sense of place (Hashemnezhad et al, 2013)

This research shows that the physical setting has the most influence on Nijmegen inhabitants' sense of place. People are more likely to feel connected to a place that looks beautiful and contains many historical buildings. In addition, not only the appearance of a city centre has a lot of influence, but also its function. Meeting people is an important part of a city centre. Nijmegen inhabitants expressed in the survey that meeting places ensure that the city centre is seen as a meaningful place. This applies not only to cafés and restaurants, but also to public places such as parks. Finally, often memories also play a big role in creating a sense of place because inhabitants link the city centre to a personal event. The memories at the places with strong personal relations create a certain sense of attachment that influences this sense of place. The survey also showed that this sense of place certainly has some influence on the frequency of visits. Respondents will visit the city centre more often because of this sense of place. However, this mainly applies to inhabitants who already visit the city centre often. Because they feel attached to this place by the factors mentioned above, among others, a certain attachment arises. When a city centre has many beautiful spots and or meeting places, the sense of place may be higher and therefore more attractive to visit this place again.

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1. Introduction

People often feel emotionally connected to a place, this kind of love for a place is called topophilia (Tuan, 1974). According to Tuan people react to a place emotionally rather than rationally. Although a feeling is difficult to put into words, it becomes clear after experiencing it. People realise their love for their own city or place most when they leave it or when they are on holiday. This feeling of attachment to a place is called a sense of place. According to Kaltenborn & Williams (2002), the definition of a sense of place is the attachment or emotional bond people have with a place or the meaning one attributes to such areas. This sense of place can also be associated with a specific place, such as the centre of a city.

City centres are important to many people. Besides being an important attraction for people from outside, the city centre is also appreciated by its own inhabitants. The city centre is seen as the living room of the city. Due to the many functions, many people have a reason to visit the city centre, this can be shopping, working, living or meeting people. Many people see the city centre as a well-known place and have a certain connection with it. At the same time, city centres are facing many challenges recently. With the advent of online shopping, new competition has arisen for physical stores. Due to the convenience of ordering purchases online, some physical stores were unable to compete with this. This increase in online shopping led to an increasing number of vacant buildings and this had a negative influence on the image of the city centre (Moolenaar, 2017). The growth in online shopping brought about a change in people's buying motives. Because most purchases could easily be made online, people visited the city centre with a different motive. People went shopping for the experience and less for a specific purpose (Evers et al., 2014).

At the start of 2020, the world entered a pandemic due to the Covid-19 virus. The challenges that city centres were already facing became bigger. Due to the closing of the non-essential stores, people started shopping online even more. Shopping in physical stores was not even an option anymore and as a result, online shopping became bigger than ever. Products have been increasingly bought online in recent years and this pandemic has also reinforced this. Partly because the shops were closed and people were less likely to visit crowded places such as shops.

Despite the advent of online shopping and the pandemic, the city centre still remains relevant and an attractive place to be. In order to remain an attractive and pleasant place to come, city centres are shifting their focus more towards experience and meeting as a visiting motive, instead of buying. While all the shops and restaurants were closed during the strict lockdown, people continued to visit the city centre. From this one can conclude that the city centre has a certain significance for inhabitants. Due to the different functions of the city centre and people's personal backgrounds, everyone gives it a different meaning. Despite the fact that everyone has different associations with a place, a common image or feeling can also arise (Verheul, 2015). This sense of place does not just arise out of nowhere but consists of a number of factors that can cause this feeling. With the growing importance of experience as a visiting motive, it becomes more and more important to understand which factors contribute most to a sense of place and to what extent is sense of place a reason to visit the city centre?

1.1 Research objective and research questions

This research focuses on the significance that people have with a certain place. For this meaning, the term sense of place is used. In the literature, there are several definitions for this term, because it is hard to describe the feeling people have with a certain place. The definition used in this research is the following: The attachment or emotional bond people have with a place or the meaning one attributes to such areas (Kaltenborn & Williams, 2002). Even though a sense of place is an attachment that is individually based on personal experiences they can also be shared (Cresswell, 2009). Shared senses of place are interesting to investigate, because when people feel the same way about a certain place, it may have to do with certain factors that are located in that place. It is therefore important for city centres, now that they are faced with so many challenges, to find out which factors contribute the most to the sense of place. This knowledge can be used to find out if a sense of place has an influence on the visitor's behaviour. The research question that will be central in this research will be as follows:

Research question:

What are the most important factors that contribute to a sense of place in the city centre of Nijmegen for inhabitants and to what extent is sense of place a reason to visit the city centre?

In order to answer the main research question it is necessary to divide this question into smaller sub-questions. The following sub questions will be answered in this research:

Sub questions:

- 1) What are the most meaningful places in the city centre of Nijmegen?
- 2) How important are the various factors that contribute to a sense of place?
- 3) To what extent is this sense of place a reason for the inhabitants of Nijmegen to visit the city centre?

1.2 Societal relevance

The city centre is seen by many as an important and well-known place. This is mainly due to the many functions that the city centre has to offer. The city centre is a cluster where many facilities are located. In addition to being able to shop, people live and work here and it is often seen as a meeting place for friends and family. The city centre is sometimes seen as the 'living room' of the city and it belongs to everyone (Hospers & Regio, 2016). It is a public space where everyone is welcome and therefore valuable for young and old. People attach great value to their city. When a place becomes important, it can create a positive sense of place. This bond can ensure the connection and return to a place (Hashemnezhad et al., 2013).

The city centre has been the place to shop for years. This changed with the advent of online shopping (Centraal Bureau voor de Statistiek, 2021). City centres faced competition from online shops. Online shopping has the advantage of saving time, convenience, flexibility and the advantageous price of the online product (HBD, 2009; Thuiswinkel.org, 2009; CBS 2009). Besides the advent of online shops, the financial crisis also affected the income of physical shops and created vacancies in city centres (Moolenaar, 2017). Despite these challenges, there are certainly benefits to physical shopping. People see it as a leisure activity and often want to admire and feel products in real life (Verkaik, 2011). A day of shopping is not just about targeted shopping but is nowadays more about the experience. A switch has emerged from run shopping which is mainly focused on targeted shopping to fun shopping with a focus more on the experience (Evers et al., 2014).

Due to these developments, municipalities are afraid of the consequences that this vacancy could entail. In recent years, cities have therefore been looking for the 'new' function of the city centre. Because targeted shopping became less dominant for visitors, city centres have to respond to this. The question that city centres are mainly concerned with is what does the city centre mean for inhabitants these days and how much value do they attach to this place? The pandemic has helped to discover the appreciation of the city centre. During the strict lockdown, all non-essential shops were closed and catering and other activities were not allowed to be open. During this lockdown, the safest way of social contact was meeting people outside, which led to walking in nature, but the city centre also remained as a meeting place. Despite the fact that it was not possible to shop, people continued to visit the city centre. City centres were already looking for new functions to keep the city centre vital, but this pandemic has made cities more aware of the diverse value that people attach to this place. It is therefore important in these changing times for city centres to find out what this relationship is between people and place. This sense of place does not just arise from nowhere, there are a number of factors that influence this. It can be helpful for city centres to know which factors contribute the most to this sense of place so that city centres can respond to this and thus also find out to what extent this sense of place a reason is to visit the city centre.

1.3 Scientific relevance

Due to the increase in online shopping, cities had to face new challenges. City centres had to compete against the convenience of online shopping to keep the city centre attractive and to deal with the shop vacancy. Several studies like Ossokina et al. (2017) and Buitelaar et al. (2012) have been searching for solutions for this vacancy problem and how to keep city centres vital. Therefore, cities are currently very busy with the question of how to keep and make city centres future-proof. Over the years, many studies have been conducted into the 'new' function of the city centre. Hirschman and Holbrook (1982) were the first to make the distinction between two kinds of shoppers, problem solvers and people who like to shop for pleasure. Which researchers translated into run and fun shoppers. According to Evers et al. (2014), the buying motive has changed in recent years from run to fun shopping. This is partly because the targeted purchases have mainly been made online in recent years. Although fun shopping has certainly contributed to the distinction between online shopping and physical shopping (PBL, 2010), the example of the pandemic shows again that even fun shopping is not the only reason for visiting the city centre. This means that the solution for the city centre needs to be made in another direction.

From the example of the pandemic, it can be concluded that the city centre has a certain significance for the inhabitants. Due to the different functions of the city centre and people's backgrounds, everyone gives it a different meaning. Despite the fact that everyone has different associations with a place, a common image or feeling can also arise (Verheul, 2015). There have been many studies on the changing city centre, but often the sense of place is left out. Yet, this sense of place influence visiting a place. For example, the research of Hashemnezhad et al. (2013) shows that a positive sense of place creates love for a place and therefore people want to stay there. When a place becomes important, people feel responsible for the place and an emotional bond is created. This bond can ensure the connection and return to a place (Hashemnezhad et al., 2013). More research on the sense of place is needed. It is therefore important to find out which factors influence a sense of place and which of those factors have the most influence on it.

Several studies have been conducted into the factors that contribute to a sense of place. Jorgensen and Stedman (2001) provided an overview of these factors. This research focuses on whether a sense of place contains a general place concept. In addition, Deutsch and Goulias (2009) have also dealt with the factors that cause a sense of place, but in a more targeted way than Jorgensen and Stedman (2001). The research of Deutsch and Goulias (2009) mainly focuses on the impact of a sense of place on travel behaviour. This also looks at the factors, but it contains a different case. In the literature, there is still a lack of research into the factors of the sense of place aimed at a specific place, namely the city centre. In addition to the fact that little is known about the sense of place in the city centre, there is also little to be found about which factor contributes more or less to this sense of place. Most studies such as the examples above mainly deal with which factors influence the sense of place, but not which ones are most influential. This also applies to the study by Hashemnezhad et al (2013), despite this study going deep into the factors with the division between physical characteristics and cognitive and perceptual factors, it does not become clear whether there are factors that influence the sense of place more than others. The question of which factor is the most important to create a sense of place in the city centre has not been answered in the literature yet. This information can contribute to the knowledge of the visiting motives of inhabitants in their city centre.

2. Literature

2.1 The role of the city centre over the years

City centres are recognisable but not officially defined areas. When people think of a city, the city centre often comes to mind first which shows how important this place is (Rijcken, 2020). The city centre has traditionally been the economic, cultural and administrative centre of the city. As a result, the centre offers various facilities such as shops, theatres, banks, post offices and a town hall. The city centre is also described as the oldest part of the city (Verlaan, 2016).

The city centre has had several main functions over the years. One of the first main functions the city centre had was to buy and sell goods and services. At this time, the city centre mainly had a work function. Inhabitants worked in the city centre and this was mainly on the market to sell goods (Lambooij, 1996). During the 19th century, this changed and many modern shops emerged and this was mainly around the market and in central locations of the city centre. Goods were no longer just sold on the market, but also inside shops as is known today. Inhabitants mainly lived outside towns and as a result, shopping areas for daily groceries emerged in these villages. City centres got big department stores during this time. This became a major draw towards the city centre. City centres grew with streets full of shops and this attracted people from a larger area than before (Speetjens and Post 2012).

As a result of this growth, city centres became increasingly crowded and there was a lack of space, so shops moved to different places. These shops settled in new neighbourhoods and, as a result, neighbourhoods and districts each got their own shopping centre. Cities grew larger and suburbanisation also created shopping facilities in the smaller centres around the cities. This became a competitor to the shopping areas in the city centre (Atzema et al., 2012).

After World War II, the development of new shopping areas was very planned (De Soet, 2012). Around this time, the basic assumption was that shops belonged in shopping centres. This was partly due to Christaller's central place theory. This theory contained a functional hierarchy with the core shopping area in city centres at the top; these central places provide economic services to surrounding areas (Goodall, 1987). At the bottom are the shops in neighbourhoods and districts that mainly focus on daily shopping. Christaller's theory explains that these central places work because their proximity to other shops is efficient. People don't want to travel far for everyday needs. People only travel further non-daily goods.

In the 1960s, the emphasis in the city centre was on the economic functions of shopping and offices, displacing housing from the city centres. The office sector settled mainly in the city centre because of its accessibility by public transport. Besides the economic functions in the city centre, many municipalities had allowed new types of retail outside the city centres. Examples were furniture malls and factory outlet centres. This caused a decentralisation of retail. This was possible because of good accessibility by car and no high parking costs like the city centre. This created a negative impact on city centres (Van Oort & Ritsema van Eck, 2010).

This changed in the late 1970s, office development was reduced in city centres. This was decided because of the decline of liveability in the city centre due to many offices (Atzema et al., 2012). It was important at this time that the retail structure in city centres would not be affected by large-scale retail at peripheral locations (Atzema et al., 2012). Around the 1970s, Christaller's theory was also criticised. This theory is based on the idea that people always travel to the nearest centre to consume. Yet this does not always turn out to be the case, despite the fact that distance certainly plays a role in the visitation motive, other factors also influence this (Meurs, 2018).

In the 1980s, shops moved away from the city centre. This was due to the expansion of cities on the edges of built-up areas (Stad en land, n.d). There was a focus on the separation of functions of living, working and shopping. People lived outside the centre, shopped in shopping centres and worked in business parks. City centres became less frequented because of this separation of functions. At the turn of the millennium, the mix of functions in the city centre attracted inhabitants and businesses and as a result, the city centre became a place with different functions (Raatgever, 2014).

2.2 (Recent) developments in the city centre

City centres have been facing a lot of challenges recently. The economic crisis, the arrival of online shopping and the closure of stores due to Covid, has led to major concerns for the future of city centres. The arrival of online shopping has changed the city centre the most because stores are having a hard time competing with online shops. The convenience of shopping at home and the saving on costs such as parking have resulted in a lack of shoppers and therefore many empty buildings. The increasing vacancy rate in city centres is causing many municipalities to worry about the attractiveness of their shopping areas (Moolenaar, 2017). Evers et al. (2014) and Vermeulen et al. (2016) argue that the sight of empty buildings has negative effects on the environment and that this influences visitor flows.

In addition, empty shops have a relatively big influence in city centres because shops cluster in shopping areas. This can also lead to a vicious circle because the success of these shops depends on each other (Moolenaar, 2017). In particular, the closure of an anchor store, or a 'shopperpuller' can have a major effect on the attractiveness and visitor flows in city centres (Damian et al., 2011). Anchor stores are mainly large chain stores that attract visitors, for example, the former V&D or Bijenkorf.

Due to the globalisation of the world, cities have also become more and more alike. Shopping streets nowadays almost always contain an H&M or other international chains. These chains do not represent a local economy and culture, but city centres are full of them. According to Zukin (2010), places are turning into everywhere else. Due to this homogenisation of the urban space, the average shopping street in the Netherlands looks about the same everywhere.

These homogenised shopping streets are the most vulnerable in a time when people are looking for local identity. In response to globalisation, a countermovement has been taking place in recent years, namely "glocalization" (Robertson, 1994). Emphasis is placed on the local qualities that cities have to offer. This counter-movement creates new products and services that match the local culture. Examples of this are relatively smaller shops where local products can be purchased (Verheul, 2015).

Besides the homogenisation of the shopping streets, city centres also have to deal with the change in people's buying motives. Targeted shopping has partly been replaced by experience-oriented shopping. This change from run to fun shopping has increased enormously in recent years (Evers et al., 2014). Run shopping is visiting the city centre with a purpose and a specific goal. Doing the groceries or needing new jeans is an example of this kind of shopping. The motive is mostly about buying things they need and less about the experience of the city centres. In contrast, the experience is essential for fun shopping. Fun shopping is more focused on the experience of being in the city centre and this can be in different ways (Hirschman and Holbrook, 1982). People nowadays can easily buy everything they need online, bringing them to the city for the experience and to make a day trip out of it. Examples of fun shopping are visiting the city for a drink or a bite to eat in a restaurant. However, shops themselves can also provide an extra experience by adding extra facilities such as a cafe in a bookstore or the option for personal shopping. These facilities provide a distinctive character between online stores and physical stores.

This focus on experience is necessary for the vitality of city centres. According to the numbers of PBL (2010) city centres will do it well if it focuses more on fun shopping. This change of people's buying motives creates concerns in city centres (Ter Beek, 2015), mostly because of the risen vacancies in city centres. Cities are noticing this change as most cities have experienced a decrease in consumer spending according to city centre visions and policy documents by Platform 31 (Ter Beek, 2015). Despite this decrease, city councils have found that there is a growth in hospitality and tourism spending. This leisure economy is a new carrier for the city centre (Gemeente Nijmegen, 2019). This growth is an important one for cities to focus more on in these times when shopping is no longer the main reason to visit the city centre.

The most recent development that city centres are dealing with is the pandemic caused by the Covid-19 virus. This pandemic had a major impact on city centres. During the strict lockdowns, all non-essential shops had to close and the city centre was almost completely closed for months. In addition to the shops, catering and other activities also had to remain closed. The original functions that bind one to the city centre were no longer there, but it was striking that the city centre had not completely deserted. People continued to visit the city centre despite the fact that there were no shops open. This raises questions such as what value do people attach to the city centre? Despite the temporary disappearance of most functions, inhabitants still had the motivation to continue visiting it. It can be concluded from this that there is a connection between inhabitants and the city centre, this connection/ meaning that people have with a place is called a sense of place.

2.3 Sense of place

The meaning of place in geography is a particular location that has acquired a set of meanings and attachments. A place is a combination of location, the material setting and a sense of place. "Location refers to an absolute point in space with a specific set of coordinates and measurable distances from other relations" (Cresswell, 2009, p.1). Besides the location which refers to the where of place, there is also the way a place looks like. The material setting for social relationships includes buildings, streets, parks and other visible aspects of a place (Cresswell, 2009).

Location and the material setting are more concrete compared to the aspect that makes a place, a sense of place. Sense of place refers to the attachment or emotional bond people have with a place or the meaning one attributes to such areas (Kaltenborn & Williams, 2002). It refers more to the feelings and emotions a place creates. These meanings can be individual and based on personal experiences, but they can also be shared (Verheul, 2015). Shared senses of a place are based on mediation and representation. The image that people have of certain cities is often determined by the media and how a city is presented like in films or other advertising forms. This creates a collective image without ever having visited the city (Cresswell, 2009).

Because a sense of place has a lot to do with emotion and experiences, this feeling is not visible and that makes it difficult to know exactly what a sense of place is. It is often a feeling that one has at a place. This may be a love for a place that describes the concept of topophilia (Tuan, 1974). The same applies to a city as it is to love, that it is difficult to put into words, but when you experience this love, you understand what it means (Hospers, 2009). People often have this emotional connection to a place with their birthplace or a favourite holiday destination. A strong example is a city such as Amsterdam, where young people often feel primarily *Amsterdammer* and only then Dutch (Ossel, 2009). They then identify with their place of residence, which often becomes clear when one leaves the place.

The word sense stands for feeling, but it is also about our senses like hearing and seeing. Cities unconsciously appeal to all our senses. When thinking of a place, one can not only see the place but often also smell, hear, feel and taste it (Hospers, 2009). Yet sight plays the largest role in the perception of cities. According to Przuntek (2008), 70-80% of the brain is connected to our visual system. This experience is different for everyone because we can never view the world completely objectively (Sulsters & Schubert, 2006). Despite the fact that everyone sees the world differently, there are also similarities and shared images. According to Kevin Lynch (1960), the mental image of a city mainly consists of five elements. These five elements are paths, edges, districts, nodes, and landmarks. Paths are streets, roads or railway lines along which the observer moves. Edges are distinct transition zones and boundaries between areas such as city and water. Districts are parts of the city with a distinctive character, this can be a district or neighbourhood. Nodes are strategic meeting places such as squares or stations and landmarks are physical products that serve as reference points for people. These are often striking or large objects/buildings that often stick with people and can be seen in many places within a city. According to Lynch, these elements are the most remembered of a place, which means that people can also have shared ideas about places.

2.4 Factors that contribute to sense of place

According to early qualitative studies, a sense of place was dependent on the depth of experiences in the physical settings and social relationships with settings (Tuan, 1980; Relph, 1976). These studies argued that a sense of place is caused by the physical details of a place, a personal connection, and a sense of connection with a community (Relph, 1976). Studies released later such as those by Turner and Turner (2006) also have a focus on the physical and social setting of a place, but in addition the focus is also on the affect and meanings based on personal memories and associations, and activities afforded by the place. Including memories and associations as a factor for sense of place is an important addition. "Place results from our experience of a space, our memories and emotional attachment to that space and the meanings we attach to it" (Turner & Turner, 2006, p.216). A (good)

memory of a place makes you feel connected. Also, activities were mentioned in this research. Some places acquire meaning for inhabitants through activities. Examples like the workplace and playgrounds for children can be meaningful for someone just because of this activity (Gustafson, 2001).

However, in the literature, there is also talk of the lack of substantial quantification. According to Deutsch and Goulias (2009), many believe that sense of place is such an experiential process and highly individualised that it is hard to quantify. This has to do with the fact that no one can see the world completely objectively. Because of our different backgrounds, people have different views of for instance the same place or building. Tuan (1977, p.6) explains this subjectivity by explaining the difference between space and place "What begins as undifferentiated space becomes place as we get to know it better and endow it with value". People give meaning to a place once they have been there, which is different for everyone. Despite the fact that every individual looks at the world differently, there are also shared senses. Jorgensen and Stedman (2001) and Deutsch and Goulias (2009) have done a lot of research into a shared sense of place and its quantification. They identify three relationships with places that appear consistently in environmental psychology literature; place attachment, place dependence and place identity.

Place attachment can be defined as a (positive) bond that develops between a person and their environment (Altman & Low, 1992). Place attachment involves emotions, cognition and practice (Vorkinn & Riese, 2001). These emotions contain affect and feelings people have with place and are the basics of the characteristics of human beings (Bowlby, 1988). These aspects differ from one individual to another, yet the place attachment does not have to be individually specific, groups can collectively share an attachment to places (Altman & Low, 1992; Vorkinn & Riese, 2001). This shared attachment to places mostly contains physical and social settings. According to Hidalgo and Hernandez (2001), social attachments are stronger than physical settings, meaning that people feel more attached to a place because of the social relations they have instead of the physical settings.

Place dependence is thought of as the "perceived strength of association between a person and a place" (Stokols & Shumaker, 1981, p.457). This is a functional connection based specifically on the individual physical connection to a place (Raymond, Brown & Weber, 2010). Place dependence can be determined by the factors; place quality and place expectation. The quality of a place is related to the availability of open spaces, entertainment, accessibility and proximity (Alrobaee & Al-Kinani, 2019). Place expectation also plays a role, which is mainly influenced by physical characteristics of a place such as continuity, accessibility and street network connection (Mansouri & Ujank, 2016).

Place identity is a person's identity in relation to the physical environment (Proshansky, 1978). Place identity refers to people's (emotional) bond with places. The word identity means two things: sameness and distinctiveness (Jacobsen-Widding, 1983). The identity of a place is something that people share, but it is also what makes it unique. Place identity is not a direct result of an experience of a place, but more a psychological investment that has developed over time. Due to place dependence and a repeat of visitation, place identity will arise. This emotional aspect may lead to a sense of belonging to one's community (Relph, 1976; Tuan, 1980).

Besides place attachment, place dependence and place identity, the physical and social environment also influence the sense of place. Research by Eisenhauer et al (2000) shows that places have a

special meaning when it has family and friends-related features or certain physical characteristics of a place. The degree of attachment to identity may arise because the physical environment appeals to one. The quality of an environment is very important for a place, if a place is not attractive and contains little atmosphere it will keep visitors away. A pleasant environment is more attractive to visitors and also makes them stay longer (Evers et al., 2005). According to Shumaker and Taylor (1983), people need the physical amenities of an environment. This was also noted by Kemmis (1990), where attachment to a place is created by the amenities present in the natural environment. The physical environment affects the meaning one gives to a place, physical aspects such as size, scale, diversity, colour, smell and noise create a certain sense of place (Steele, 1981).

According to Low and Altman (1992, p.4), the social environment appears to have a major effect on the sense of place. Thus, according to them, "Social relations that a place signifies may be equally or more important to the attachment process than the place qua place". Places are the contexts within interpersonal and cultural relationships and those social relationships make people attached to a place. According to Hay (1998), meaningful place experiences most often occur in the presence of significant others. A social place is perceived as important by many people. Many people's memories are in physical places, but in a social context which often makes them provide a lot of meaning (Hay, 1998).

Besides the physical and social settings, personal characteristics also influence the relationship with a place. According to Hashemnezhad et al. (2013), factors like age, gender and culture play a significant role in forming a sense of place. According to Rollero and Piccoli's (2010) research, there is a gender difference in place attachment. This research shows that women have a higher level of place attachment than men. This is because women maintain more social relationships in the local area (Prezza et al., 2001), which has the greatest influence on place attachment. A city centre is a meeting place and therefore women are more likely to feel attached to this place because of these social relations. However, it turns out that gender has little influence on place identity, but age and the number of years living in a place do influence place identity. According to Rollero and Piccoli (2010), it is mainly elderly people and long-time residents who have a strong place identity.

Cultural factors also influence the perception and sense of place in cities. It turns out that Western Europeans do not fully understand the city of Medina in Saudi Arabia, because they do not know that urban life takes place in the courtyards (Jochems, 2007). This also applies the other way around. It turns out that Chinese tourists find Rome the ugliest city, but Frankfurt the most beautiful. They also care more about skyscrapers than old historic cities. These examples indicate that the image you have of a city is partly determined by your culture (Hospers, 2009).

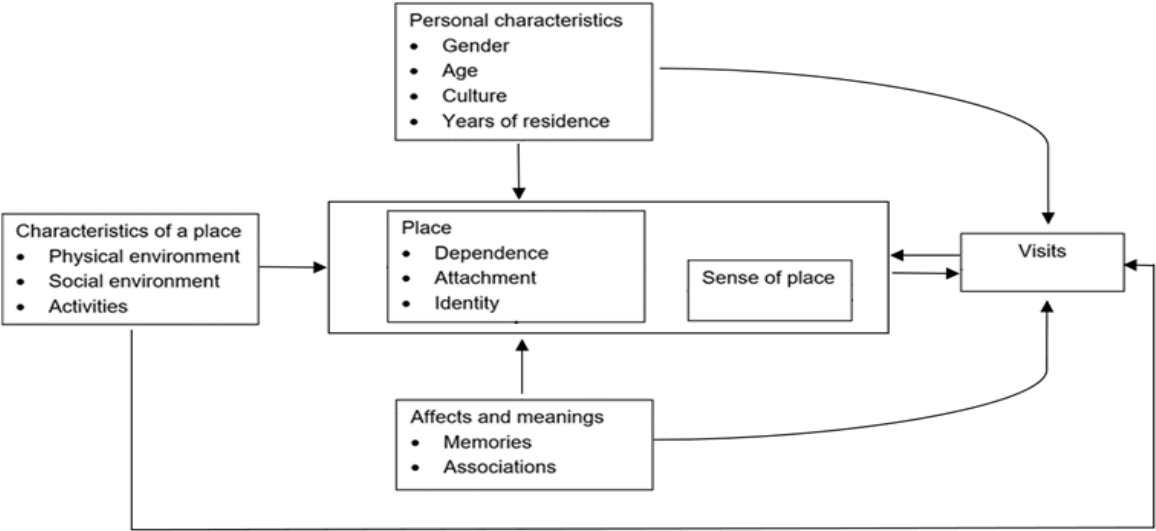
According to Hufford (1992) place is a meaning-based concept, with meanings derived from experiences with the physical landscape. "What begins as undifferentiated space becomes a place when we endow it with value" (Tuan, 1977, p.6). According to Tuan, space is socially constructed because people describe a place based on their experiences. This is also one of the reasons why culture can have so much effect on the way we look at a place and thus the sense of place. Greider and Garkovich (1994, p.2) assert "landscapes are the reflections of these cultural identities, which are about us, rather than the natural environment." According to them this sense of place is created by our own experiences and activities people do in their cultural requirement setting.

One factor that affects the sense of place is the frequency of visits. According to Tuan (1980) the strong emotional feeling toward a place is a product of repeated place interactions and experiences. As mentioned above, space becomes a place as we get to know it better and endow it with value. By visiting a place more often this emotional feeling and bond can be created. A person who frequently visits the city centre tends to develop an emotional attachment to it and will be more concerned about this place (Žlender & Gemin, 2020). Spaces, where people engage and feel familiar, are most frequently visited. According to Shamsuddin & Ujang (2008) repeated experiences of a place are necessary for a person to build attachment and meanings. This bond ensures the connection and returns to a place (Hashemnezhad et al., 2013). These attachments and meanings are necessary for creating a sense of place (Altman & Low, 1992).

2.5 Conceptual model

Based on the literature review above, this conceptual model below is developed. This conceptual model is divided into the characteristics of a place, personal characteristics, and affect and meanings. These three variables affect the relationship one has with a place, which in turn affects the sense of place. Relph (1976) argued that a sense of place is “formed” by the physical details of a place, a personal connection, and a sense of connection with a community. The Physical details and the connection with the community are coming together as the variable *Characteristics of a place*. This variable contains the physical and social environment. This contains the association with social relationships in the city centre but also the non-human setting. Besides these two settings, activities have also been added because it is a part of the characteristics of the place. These variables influence the variable *Place* which is mentioned by Jorgensen and Stedman (2001) and also by Deutsch and Goulias (2009). They identify three relationships with places that appear consistently in environmental psychology literature; place attachment, place dependence, and place identity. In addition to the characteristics of a place, *personal characteristics* also influence a place. Characteristics like gender, age, culture, and years of residence influence the relationship people have with a place. An important part of the relationship with a place are the memories and association that people have. Therefore, a third variable *affect and meanings* have been added. The three factors of the variable *place* influence the sense of place, just like the characteristics of a place, personal characteristics, and affect and meanings. This sense of place (and the three relationships with place) can influence the visitor’s behaviour like the visit frequency. There is also a relation the other way around, according to Hashemnezhad et al. (2013) people will visit a place more often when there is a positive sense of place, but more visits will also lead to a sense of place and a higher score on the different aspect that influence a sense of place.

Figure 1 Conceptual model



Source: own work

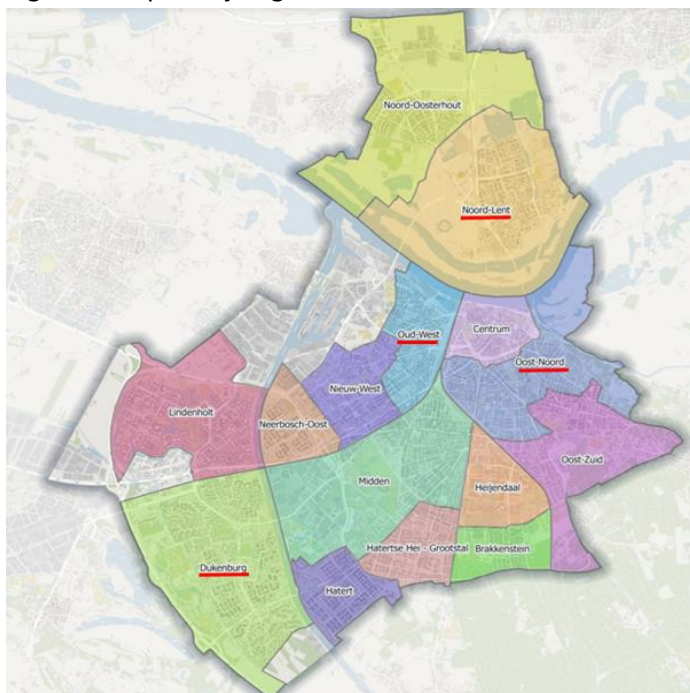
3. Methodology

3.1 Research area

This research has the city centre of Nijmegen as a case study. Nijmegen is a city in the province of Gelderland and has about 180,000 inhabitants (Gemeente Nijmegen, 2022) and has grown in terms of the population over the past 20 years. Nijmegen is located on the river Waal that directly borders the city centre. The Waal forms a boundary between the city centre and the Nijmegen Lent district which is located in northern Nijmegen. Nijmegen presents itself as the oldest city in the Netherlands. Despite the fact that it is not entirely clear which city in the Netherlands is the oldest, old historical parts can certainly still be seen in Nijmegen. Nijmegen city centre, unfortunately, suffered a lot during the war. Many buildings were bombed, making the city centre a combination of new and old buildings mixed. As a result, the city centre consists of the reconstruction area combined with the old buildings and the lower town. The reconstruction of the lower town in the 1970s made it a residential area with protected status (Gemeente Nijmegen, (2012, February)). Because the river Waal is directly adjacent to the city centre, it has a special combination of the hustle and bustle of the city centre and the peace and quiet of the Waal.

Four districts were chosen for this study, namely Nijmegen North (Lent), Nijmegen Dukenburg, Nijmegen-East and Nijmegen West (old-west). These are four neighbourhoods that differ in terms of location, income and family composition. The districts of Nijmegen East and Nijmegen North are adjacent to the city centre. Nijmegen North is separated by the river Waal but can be reached quickly via the Waal bridge. The Old-West district is just a bit further from the city centre and the Dukenburg district is about 8 km away from the city centre. Besides location, there are also differences in income and age.

Figure 2 map of Nijmegen



source: Planningskader 2017)

For this study, we looked at the incomes of individuals and households per neighbourhood. It was decided to divide between a neighbourhood with lower incomes, a neighbourhood with higher incomes and two neighbourhoods that are average. The neighbourhood Noord Nijmegen (Lent) has the largest number of people with a high income, Old-West and Nijmegen-East are average in terms of income and the neighbourhood Dukenburg has the lowest income compared to the other districts (CBS in uw buurt, 2022). We also looked at the age groups per neighbourhood. The figures from "CBS in uw buurt" showed that the Nijmegen Lent district had the largest percentage of families. Nijmegen-East neighbourhood was one of the neighbourhoods with the most young people, Dukenburg on the other hand had the most elderly people in the neighbourhood and Oud-West was very evenly distributed in terms of age groups. In this way, we were most likely to reach most age groups.

3.2 Research strategy

This research will examine what the most important factors are that contribute to a sense of place and to what extent is a sense of place the reason to visit the city centre. According to the literature review, several factors contribute to a sense of place, but there is a lack of information about which of them are the most important. Besides the importance of the factors, this research will also focus on the influence of a sense of place on visitors' behaviour.

A deductive approach is presented in this research. A deductive research approach involves testing an existing theory (Business Research Methodology, n.d.). For this research, we first looked at what was already known in the literature and tested this information on this particular study where little or no information was available. The information on the sense of place from the literature were mainly factors that affect sense of place in general. This information was compared to the city centre as a place and to what extent these factors correspond and which one has the most influence.

Research can be conducted in a few ways, qualitative, quantitative or mixed methods where both of these ways can be used. Qualitative research goes into more depth through interviews and literature research. In quantitative research, theories are often tested and generalised over a large group. This data is often collected via a survey, an experiment or a case study. (Verschuren & Doorewaard, 2007). This research will be conducted in a quantitative manner through surveys so that a broad picture of the sense of place emerges. A survey is a type of research in which the researcher tries to get a broad picture (Verschuren & Doorewaard, 2007). To find out which factors contribute the most to a sense of place, it is important for this kind of research that data can be compared. Data such as mean statements and standard variation are compared. These factors can be compared when there are many respondents available (Vennix, 2016). The literature can be used to form the surveys and through the surveys, new information can be obtained. This research will focus on the sense of place and how multiple people view this topic. Even though everyone has a different opinion regarding the value they attach to the city centre and the feeling of this place, it is important to question many respondents to find out if any similarities can be found. Therefore quantitative research is chosen instead of qualitative to research the opinions of many people instead of in-depth research of individual inhabitants.

In quantitative research, it is important to think carefully about the questioning beforehand because it cannot be changed later. A lot of thought went into how to ask questions. The survey consists of a combination of open and closed questions. Most questions on personal characteristics are closed questions, but the questions that deal with meaningful places and giving reasons are open questions. The open questions ensure that the answers are not driven which is what is most valuable in those questions. Questions like gender or completed education level, on the other hand, are more valuable and easier for respondents to answer as closed questions. All questions are mandatory to answer so that respondents do not accidentally fail to answer. The questions that may be sensitive therefore also have the 'no-answer' option so that all questions can be completed. Nevertheless, some respondents stopped halfway through, so not all questions were answered by the same number of respondents.

3.3 Data collection

For data collection, information was obtained through online surveys. The online surveys were distributed through leaflets in the letterbox. This leaflet contained a QR code in the middle so that it was clear that it had to be scanned. In addition, the leaflet consisted of a piece of text to give inhabitants some information about the survey, the length of the survey and a recognisable picture of the city of Nijmegen. A total of 5000 flyers were printed and distributed along houses. We then waited two weeks to analyse the data so that everyone had time to complete the survey, bearing in mind that people could also be on holiday. The concept of sense of place that is central to this study was translated in the survey into the meaning of a place. This was chosen so that respondents could better understand the concept and thereby complete it better.

The focus of the survey will be on the inhabitants of the city of Nijmegen. The inhabitants of Nijmegen were chosen because it is assumed that they have a strong sense of place. The place where people live or were born often has more meaning for people than any other place. This may also have to do with the fact that inhabitants visit their city centre more often than someone who does not live there. By visiting a place more often, a sense of place is more likely to be created (Hashemnezhad et al., 2013). Visiting one's own region or city has increased in recent years (DTNP, 2021) and therefore cities will have to focus more on this. This research aims to find out what meaning the city centre has for inhabitants of Nijmegen and which factors contribute to this sense of place. This mainly requires a lot of people, which is why four neighbourhoods will be included in this research. The results will therefore be figures and percentages that will provide insights into the sense of place and the associated factors. To get the answers from the inhabitants it is important to create a survey with questions focusing on the different factors of sense of place and their visit motive.

The questionnaire was designed using the program Qualtrics. This program was used to create an online survey with a total of 18 questions. The survey was constructed so that it had a certain logic to it. Consideration was given to the structure of the survey so that as much information as possible could be obtained. The survey starts by asking about various standard personal characteristics such as gender, age, education level completed, household composition and gross monthly income. Ethnic background was also asked, as it was mentioned in the literature that these characteristics can affect the sense of place. Next, the postcode is asked so that it can be checked whether this respondent is a

resident of the city of Nijmegen, followed by the question of how many years this respondent has lived in Nijmegen.

The second part of the survey starts with the question, "Which place in the entire city of Nijmegen means a lot to you?" Respondents may name any place within the city of Nijmegen with a lot of meaning and also explain why. This question is asked right after the questions on personal characteristics. This was chosen because this question allows checking whether the city centre or parts of it are mentioned. Only after this question did the questions about Nijmegen city centre start.

For this research, it is important to find out which factors contribute most to the sense of place and to what extent this sense of place contributes to the frequency of visits. For this purpose, it is useful to know how often respondents visit the city centre and what the respondents' main reasons for visiting are. Respondents were asked to indicate the average number of times they visited the city centre in the past few months. They were then asked about the three main reasons for visiting in the past few months.

The third part of the survey focuses mainly on the significance of Nijmegen city centre and its eight factors. An important question for this survey is asked here namely, Is the city centre of Nijmegen a meaningful place for you? Here, respondents could give a mark between 1 and 5, where 1 stood for no significance and 5 for a lot of significance. The choice was made here to send the respondents who answered 2 or lower straight onto the last question. The reason for this is that this study mainly focuses on finding out which factors contribute most to the sense of place, this requires respondents who see the city centre as a meaningful place, which in this study means from grade 2 and above. This choice effected on the number of respondents completing the rest of the survey. Fewer respondents answered the following questions as a result. To find out which factors contribute most to the sense of place, eight statements with these factors were presented. For each of these statements, respondents could indicate with a mark between 1 and 5 the extent to which they felt the factors affected the sense of place. This question can be used to see which factor scores highest on average.

Whether this significance affects the frequency of visits is tested by answering the statement: "The meaning the city centre has for me makes me visit it more often." Like the previous two questions, this question can be answered by giving a mark between 1 and 5, where 1 indicates totally disagree and 5 indicates totally agree. Only after this question comes the question of whether there is a specific place in the city centre that means a lot and is asked about the significance of the city centre. In the beginning of the survey, this question was asked about all of Nijmegen and only specifically about the city centre at the end so that the answers could not be controlled. This question is asked to see if the answers to these meaningful places can be linked to the factors of sense of place. The survey concludes by asking how the city centre needs to change to become more meaningful. Respondents who scored 2 or lower on the question of whether the city centre is a meaningful place were sent straight to this question. This was chosen because, in this survey, respondents who gave a 2 or lower on the significance of the city centre are seen as people who give little significance to the city centre. As a result, they do not participate in most questions in terms of a sense of place.

3.4 Data analysis

The data that is collected from the online surveys are statistically analysed via the SPSS program. This program is very useful for comparing a lot of information with each other and also to be able to establish relationships between variables. The analysis starts with a descriptive analysis with frequency tables of the characteristics of the inhabitants. This is done to present an overview of the profile of the respondents which includes gender, age and number of years living in the city. This information is also needed to compare other information for making statements about certain groups.

After the descriptions of all personal characteristics, the other variables that recur in the conceptual model are also described. Graphs show how respondents answered the questions about the meaning of Nijmegen city centre, meaningful places in Nijmegen as a whole and also meaningful places specifically about Nijmegen city centre. Averages of the statements with the 8 factors that influence a sense of place are also calculated. In addition to averages, the standard deviation was also examined because an average does not always say much. By holding a standard deviation next to a mean, it is easy to see if the mean matches the answers and if the answers are close to each other. The data on visit motive and visit frequency are also described in tables and all these variables are then correlated in the next chapter.

A number of correlation tests were done to find out if correlations could be found between the variables. To find out which variables coherence with the score of the significance of Nijmegen city centre, a correlation test was conducted with most of the variables from this study. In addition, the eight statements with the eight factors that influence the sense of place were correlated with all personal characteristics to find out whether there is a correlation here. The correlation with ethnic background was taken out, because this survey shows that the respondents mainly have a Dutch background. The other background groups are too small to be compared. Since correlation tests only indicate whether there is a correlation or not, it was not yet clear what causal relationships could be found. To find out, several linear regression analyses were performed on the variables that correlated. The regression analyses made the causal relationships clear and gave more information about the variables.

4. Descriptive statistics

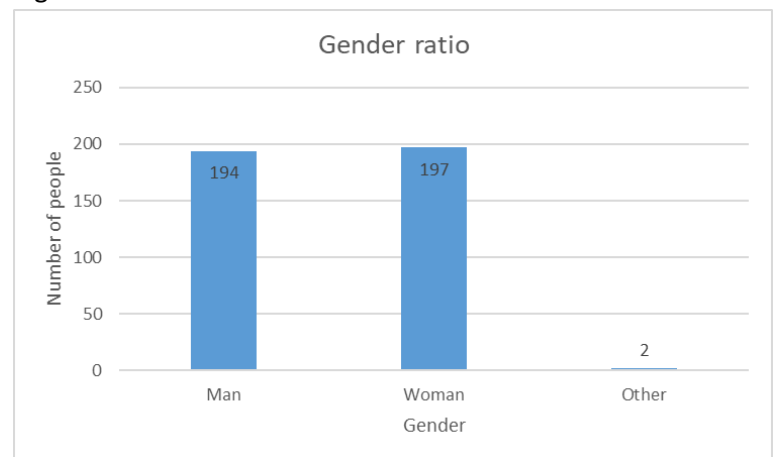
This chapter reports the results of the descriptive statistics. This chapter begins by describing personal characteristics like gender, age, ethnic background and a number of years living in Nijmegen. Chapter 4.2 describes the visit motives and frequencies. Chapter 4.3 describes the sense of place of the inhabitants of Nijmegen and in chapter 4.4 the type of places that create a sense of place. 4.5 then discusses the factors that influence a sense of place and describes the different averages of these factors and also compares the most meaningful places in the city centre with the averages of these factors. 4.6 then describes the areas for improvement in terms of increasing sense of place and this chapter ends with a summary of these descriptive statistics.

4.1. Personal characteristics

Gender

The gender distribution is almost equal, 194 respondents are male and 197 female and 2 respondents filled in the answer 'other' for this question. Because the distribution is almost equal, the results will not be affected by one of the genders being in the majority.

Figure 3

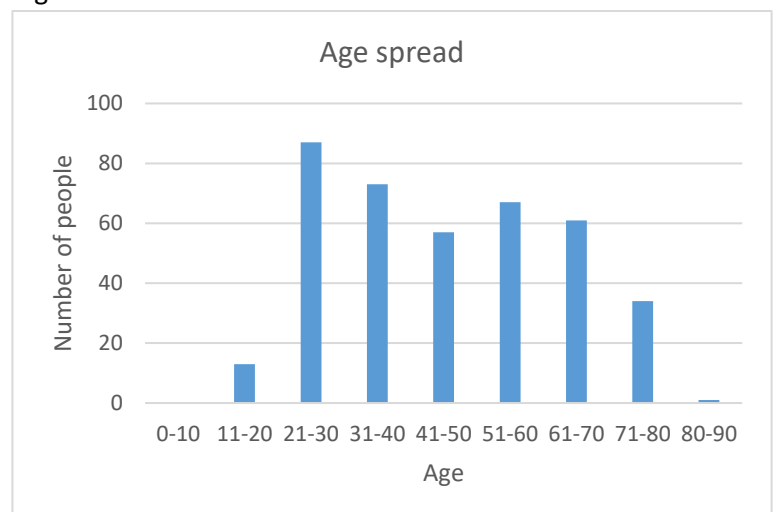


Source: own survey (2022), N=393

Age

Looking at the distribution of ages, it is notable that this survey includes all ages. The youngest respondent is aged 12 and the oldest is 82. The average age is 45. It is a fairly even spread, with a few peaks at ages 27 and 35. Because the surveys were distributed in 4 different neighbourhoods in terms of age, this survey reached multiple age groups. Notable is the size of the group aged 70 and above. This is because the survey was online and could be completed by scanning a QR code. The assumption that this means people at a higher age will be reached less is not entirely correct because we still managed to reach a number of respondents from that age group.

Figure 4

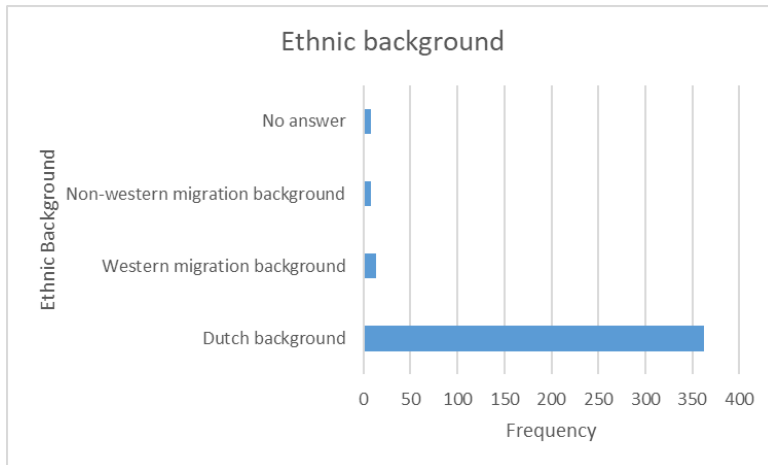


Source: own survey (2022), N=393

Ethnic background

The survey asked about the ethnic background of the respondents. This is because literature has shown that this can affect the sense of place. By choosing 4 different neighbourhoods, the intention was to obtain respondents from different backgrounds. In terms of ethnic background, this was more difficult than thought beforehand. Almost all respondents (93%) have a Dutch background. This variable will not be used in the following research.

Figure 5

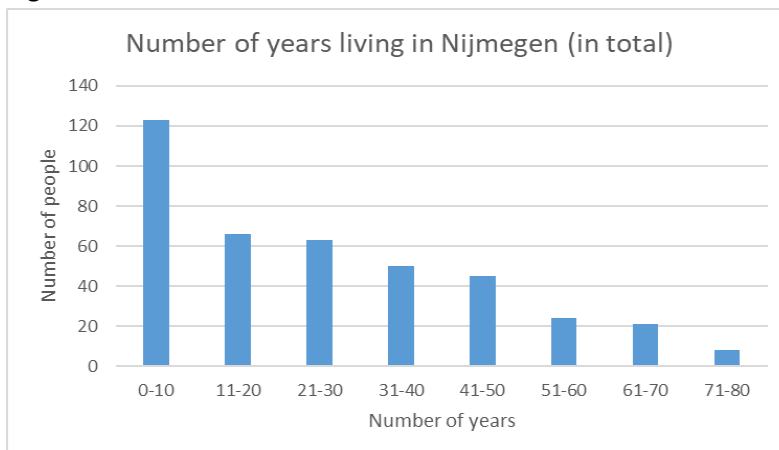


Source: own survey (2022), N=391

Number of years of living in Nijmegen

The number of years the respondents have been living in Nijmegen is very dispersed. The largest group is the respondents that have lived in Nijmegen for less than 10 years. 31.5% of respondents have lived in Nijmegen for between 0 and 10 years and amounts to almost a third of the respondents. There is also a group of respondents who have lived in Nijmegen for more than 70 years; this is about 3% of respondents. This survey includes respondents who have lived in Nijmegen for at least 3 months up to respondents who have lived here for 80 years. As a result, this survey does not give a biased picture of only people living there for a long or short time but all years forward.

Figure 6



Source: own survey (2022), N=389

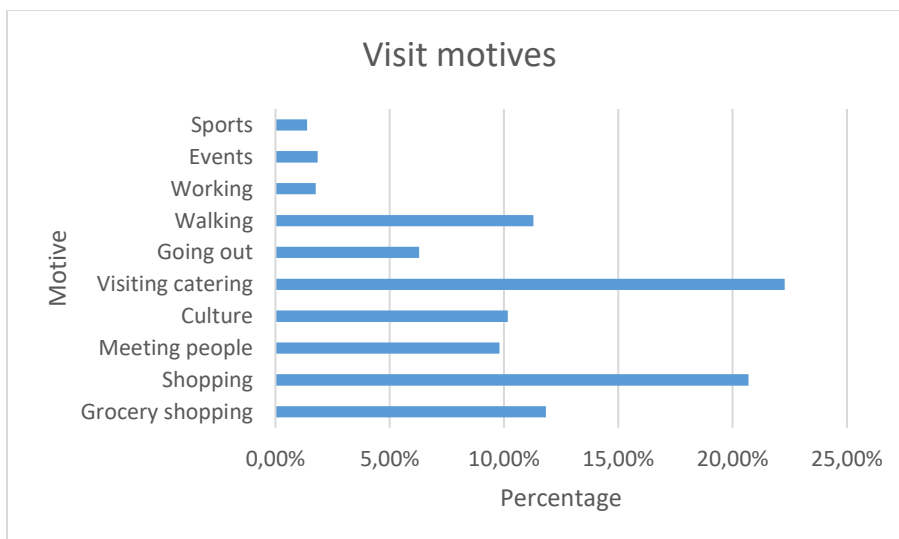
4.2 Visit motives and frequency

This chapter describes the visit motives and visit frequencies.

Visit motives

To find out the main reason for visiting the city centre, respondents were asked to indicate their motive for visiting. Here, respondents could indicate three visit motives from the last few months. The table clearly shows that most of the respondents visit the city centre to visit the catering. 22% of all answers are about visiting the catering. Besides catering, shopping also remains an important visiting motive. The city centre has faced a lot of competition from online shopping in recent years, yet almost 21% answers are shopping. Besides catering and shopping, the city centre is also visited for grocery shopping and to go out for a walk. Interestingly, few respondents visit the city centre for events.

Figure 7

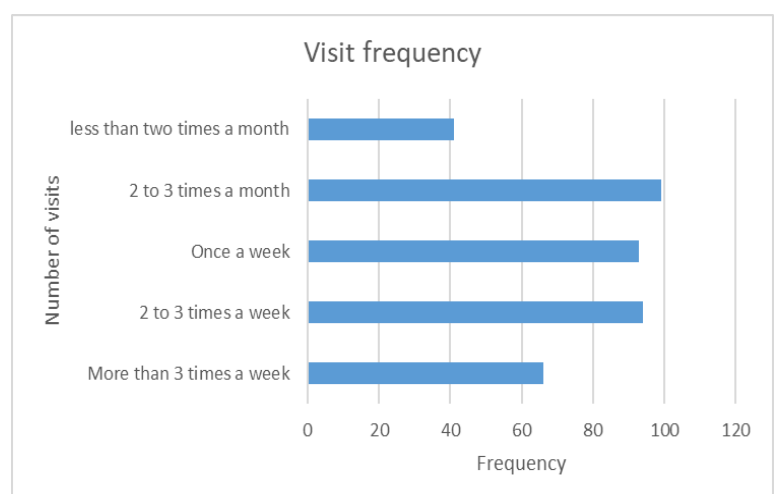


Source: own survey (2022), N=393

Visit frequency

In this survey, in addition to the visiting motive, respondents were also asked about the frequency of visits to Nijmegen city centre. Here, respondents had to indicate how often they visit the city centre per month. Most respondents answered 2 or 3 times a month here, closely followed by, once a week and 2 to 3 times a week. The respondents vary from people who can be found in the centre a lot such as the group that visits the centre more than 3 times a week (namely 16.8%) to respondents who visit less than 2 times a month (10.4%).

Figure 8



Source: own survey (2022), N=393

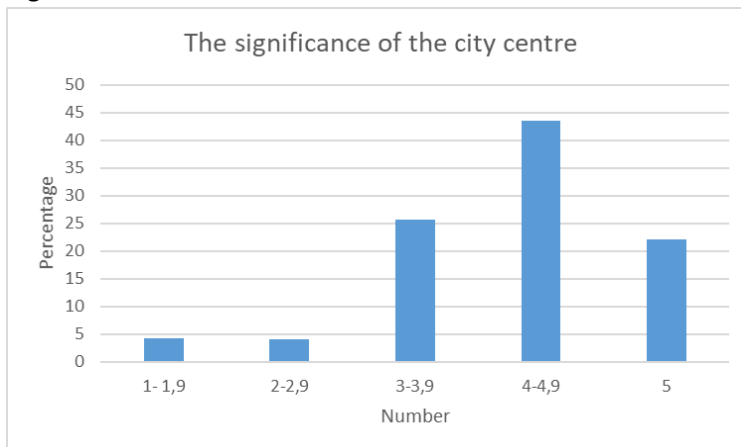
4.3 Sense of place

This section will describe the sense of place given to the city centre by respondents. Respondents were asked to mark the significance of the city centre of Nijmegen between 1 and 5. The statement "The meaning the city centre has for me makes me come there more" is also discussed here.

The significance of the city centre

In the survey, respondents were asked whether Nijmegen city centre is a meaningful place. A mark was used to indicate the extent to which Nijmegen's city centre is meaningful. The average is a 3.96 which is well reflected in the graph. One of the highest bars is around mark 4. What is striking is the high frequency of the mark 5, with respondents indicating that Nijmegen city centre has a lot of significance. 87 respondents have given a 5 which means that more than 22% of respondents find Nijmegen city centre a very meaningful place. Because this survey is looking into which factors contribute most to this sense of place, we chose to forward the respondents who give little meaning to the city centre to the last question. This group of people are the respondents who scored 2 or lower, which is 5.9% of the respondents. As a result, the 8 statements (figure 15) were only answered by the 368 respondents who see the city centre as a meaningful place.

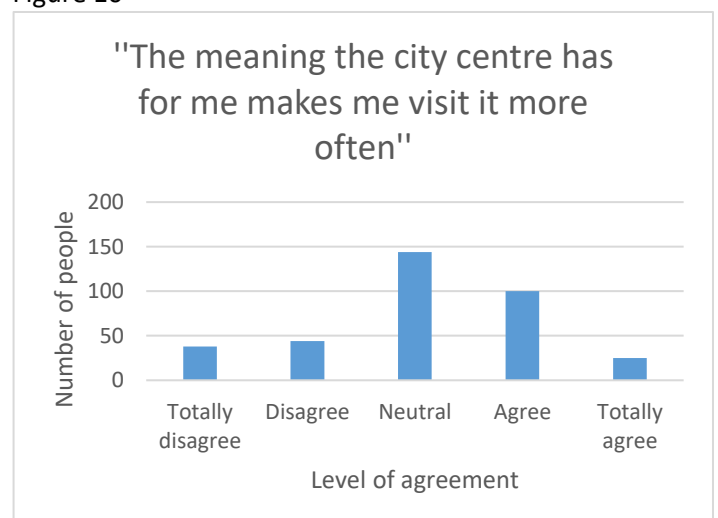
Figure 9



Source: own survey (2022), N=392

The respondents who then scored higher than a 2 on the significance of the city centre are asked a number of questions regarding sense of place. They are also presented with a statement asking respondents to what extent this sense of place/ meaning of the city makes them visit the city centre more often. Looking at the result, it can be seen that the largest group is neutral, but most respondents are more likely to agree than disagree with this statement.

Figure 10



Source: own survey (2022), N=351

4.4 Types of places that create a sense of place

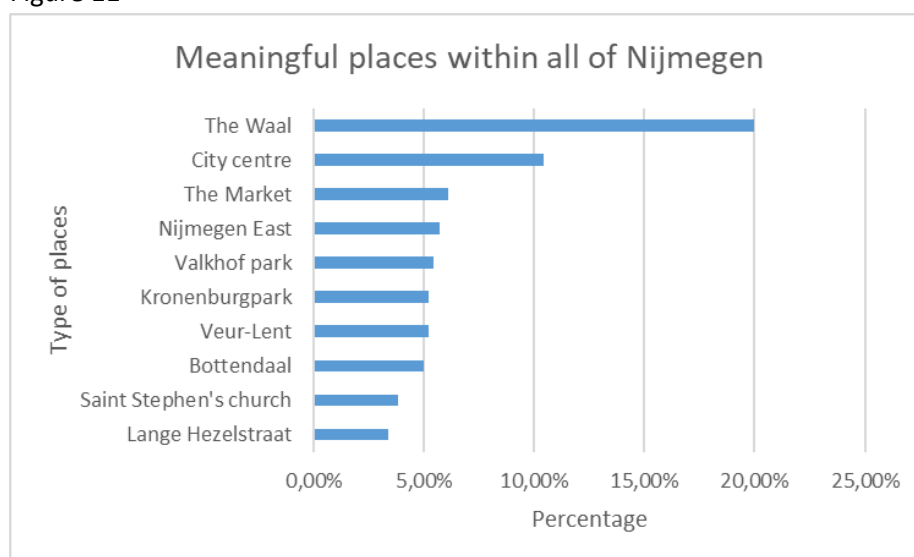
This section describes the types of places with a lot of meaning and the reason behind these meaningful places. These types of places with a lot of meaning are divided into meaningful places within the whole city of Nijmegen and specifically only the city centre. Sense of place is created by several factors that are discussed in more detail in 4.5. By finding out which specific places in the city and especially in the city centre have a lot of meaning, more information emerges regarding the meaning inhabitants give to the city centre.

Meaningful places within all of Nijmegen

In the survey (on the personal questions regarding age, background etc), one of the first questions is as follows: "Which place in the entire city of Nijmegen means a lot to you? Please describe this location. (This may be any location within the city of Nijmegen)". Some respondents answered with more than one specific place. The responses showed that the Waal was mentioned most often concerns the Waal as a river, the Waalkade but also the Waalstrand. 20% of all answers refer to the Waal as a place of great significance. In addition, the respondents' neighbourhoods also featured often in the answers, with Nijmegen east being mentioned particularly often.

The question mentioned that this can be any place within Nijmegen. This is an important question to test to what extent the city centre is seen as an important place. If respondents immediately think of the city centre, that says something about the place. A total of 387 respondents answered this question (This question was asked to all respondents, before the question about the significance), here we looked at how many respondents named the city centre or a part of the centre. The results showed that 54% of the answers referred to the city centre or a part of the centre as a place with a lot of meaning. This included the Waal and Waalkade as part of the city centre, but not the Waalstrand. This is because it is located just outside the city centre area. Looking at the answers that are about the city centre, the following answers stand out. The most frequently mentioned places within the city centre are the following: The Market, Valkhof park, Kronenburgerpark, Saint Stephens Church and Lange Hezelstraat.

Figure 11

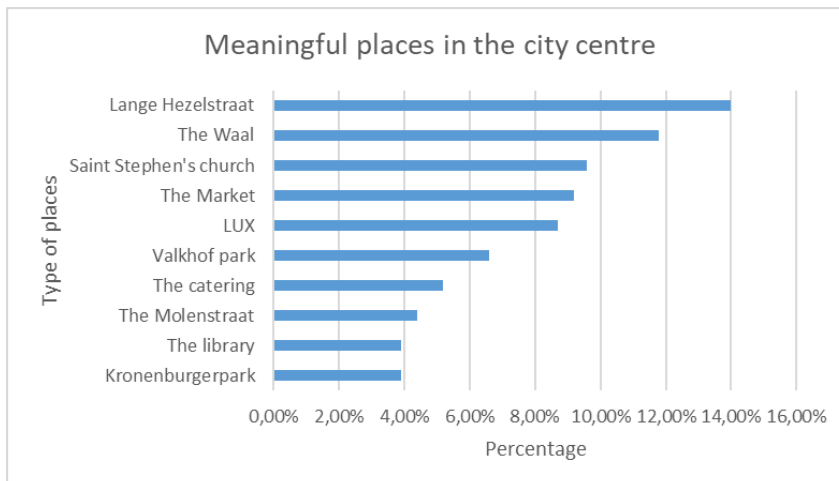


Source: own survey (2022), N=387

Meaningful places in the city centre

Besides answering a meaningful place in all of Nijmegen, respondents were also asked about a meaningful place specifically in the city centre. This question is asked after the question about the significance, which is why fewer respondents have answered. There are 228 answers because not every respondent has answered this question (seriously). The Lange Hezelstraat was named most often by respondents and here, too, the Waal scored high and the answers corresponded nicely to the meaningful places in all of Nijmegen. It was mentioned that the Lange Hezelstraat was mainly popular because of the nice cafes and the appearance of the street. Incidentally, this also applies to the Market and the terraces located there. Many people appreciate the Waal because of its calming character within a busy city and where it is nice to walk. Also, LUX is an arthouse with stages, films and a terrace where people like to gather. In third place is Saint Stephen's Church, respondents' answers showed that Saint Stephen's Church was seen as "the symbol of the city" or "icon of the city". Many are informed that Saint Stephen's Church is part of Nijmegen's famous skyline that can be seen when driving into the city via the Waal Bridge (Own survey, 2022). Because of this, it is a meaningful place within the city.

Figure 12



Source: own survey (2022), N=228

Besides asking about the most meaningful place in the city centre, the survey also asked about the reason for this meaningful place and to describe the city centre. Some respondents explained why the places mentioned above are most meaningful to them, the top five responses being as follows:

Figure 13 explanations meaningful places in the city centre

Meaningful place in the city centre	Amount
Memories	29
Beautiful place (physical aspects)	18
Meeting people	11
Feeling at home	7
Good atmosphere	5

Source: own survey (2022)

The respondents' explanations revealed that the reason for the most meaningful places is mainly related to memories of the place. Respondents have personal memories such as places where they got married to pubs from their student days. There were also many references to the physical aspects of the places. Respondents indicated that some places had a lot of significance because of the beautiful buildings or scenic spots. Meeting places appear 11 times in the answers and feeling at home was mentioned 7 times by respondents. A good atmosphere was also given as a reason for the meaningful places.

Then, at the end of the survey, respondents were asked for a summary of what the city centre means. The answers are very similar to those above in terms of explaining meaningful places. What is striking about this top five is that memories do not feature in the top five, it is in 6th place. From this table, it can be seen that respondents describe the city centre as a place with a good atmosphere. Meeting people also scores high and is named 64 times by respondents when summarising the city centre. In addition, physical aspects rank third and facilities fourth. Feeling at home also features again in the answers.

Figure 14 the meaning of the city centre

Meaning city centre	Amount
Good atmosphere	86
Meeting people	64
Beautiful place (physical aspects)	38
Facilities	35
Feeling at home	28

Source: own survey (2022)

4.5 Eight factors affecting sense of place

From the literature, eight factors emerged that influence the sense of place. The survey tested which of these factors most influenced the sense of place. The 8 factors were presented via statements and respondents could indicate the extent to which they agreed with them with a mark between 1 and 5.

Looking at the averages of all factors, it can be seen that the statement "It is a beautiful place to be" has the highest average, namely a 3.91. Besides having a high average, this factor also has a low standard deviation, meaning the answers are very close to each other. Respondents value a place when it is a beautiful place. The statement "I am attached to the city centre" also scores high and has a mean of 3.86. Besides this attachment and being a beautiful place, social contacts also have a great influence on the sense of place. The statement "It is an important place for meeting social contacts" scores an average of 3.66. The lowest average is a 2.74 for the statement: "I depend on city centre facilities for my purchases". That the statement "It is a beautiful place to be" scores highest is reflected in several studies on the sense of place. The physical setting that according to Tuan (1980) and Relph (1976) is an important factor also reflected in newer studies such as those by Turner and Turner (2006). According to Hidalgo and Hernandez (2001), the social setting is greater than the physical setting. The statement "It is an important place for meeting social contacts" then does not score higher than the statement about the physical setting, but still one of the highest.

Figure 15 Mean of the 8 statements

Statement: The city centre has meaning for me because	Mean	Standard Deviation
1. I depend on city centre facilities for my purchases	2.74	1.11
2. I am attached to the city centre	3.86	0.92
3. It is an important place for meeting social contacts	3.66	1.02
4. There is a lot to do in the city centre in terms of activities	3.47	0.92
5. It is a beautiful place to be	3.91	0.83
6. I have strong memories of the city centre as a place	3.49	1.12
7. The city centre is a part of my identity	2.85	1.22
8. I am proud of my city centre	3.48	1.05

Source: own survey (2022), N=368

The averages above were calculated with all respondents who answered this question. To get more information from these averages, we looked at what the averages of these statements are at the seven most meaningful places in the city centre. The purpose of this table is to see per meaningful place, which statement scores high here so that a possible connection can be drawn. This table shows whether respondents who find catering or Lux a meaningful place, for instance, also score higher on the statement "It is an important place for meeting social contacts". The overall mean has also been added to this table so that this information can also be compared. Catering is a collection of answers dealing with cafés and restaurants in the city centre. Parks represent the Valkhofpark and Kronenburgerpark, and Shopping streets include several streets such as Lange Hezelstraat and Molenstraat.

Interestingly, for almost every place except the Waal, the statement: "I am attached to the city centre" scores the highest. Looking at the overall averages (from figure 15), this corresponds and generally scores high. In addition, almost all of this group of respondents scored even higher on the attachment than the averages of the whole group. The respondents who answered the Waal as a meaningful place, score highest on average on the statement: "It is a beautiful place to be". This statement also scored high among respondents who answered places like the parks, Saint Stephen's Church and the shopping streets. In addition to the attachment to the city centre, the respondents who see Lux as a meaningful place also score high on the statement: "It is an important place for meeting social contacts". Attachment is also the highest average among respondents who see catering as a meaningful place, yet in second place comes the statement: "I am proud of my city centre". The comparison between the averages of all respondents and the averages of respondents by place in the city centre is striking. Almost all the averages are higher compared to the mean of all respondents.

Figure 16 Mean per meaningful place

Place in the city centre	Catering	Lux	Parks	Saint Stephen's Church	The Waal	Shopping streets	Mean of all respondents
Statements	N=36	N=18	N=13	N=19	N=17	N=37	N=368
I depend on city centre facilities for my purchases	2,60	2,97	2,86	2,81	3,32	2,85	2,74
I am attached to the city centre	3,83	4,28	4,36	4,11	3,94	4,22	3,86
It is an important place for meeting social contacts	3,69	4,14	4,11	3,54	3,72	3,78	3,66
There is a lot to do in the city centre in terms of activities	3,48	3,94	3,88	3,65	3,46	3,59	3,47
It is a beautiful place to be	3,71	4,04	4,23	3,86	4,16	3,96	3,91
I have strong memories of the city centre as a place	3,68	3,96	4,15	3,53	3,51	3,57	3,49
The city centre is a part of my identity	3,12	2,83	3,91	3,11	2,99	3,25	2,85
I am proud of my city centre	3,71	3,39	3,96	3,53	3,56	3,81	3,48

Source: own survey (2022)

4.6 How to improve the significance of the city centre /sense of place

This chapter will describe the answers the respondents gave to improve the sense of place. This question was asked to every respondent.

26% of respondents indicated that the city centre would be more meaningful if it contained more greenery. This means more greenery in the form of trees and plants in shopping streets, but also more little parks where people can unwind. These little parks were often mentioned in combination with sitting areas in parks so that more meeting places can be created that are not catering. Besides greenery, it is clear from the answers that people would like to see the city centre without traffic. A car-free city centre would enhance the atmosphere and safety. The wish of these respondents is that no more buses drive through the city centre.

12% of respondents linked a meaningful city centre to a city with beautiful historical buildings. Here, respondents refer to the "ugly post-war buildings". People value a beautiful environment and that includes beautiful buildings. Preserving beautiful and historic facades was also mentioned several times.

Besides more greenery or beautiful buildings, respondents also felt it was important for the city centre to offer enough activities. These activities varied from more events in the city to more cultural offerings. This had the main reason that there is more to do in the city centre than just shopping and people needed more types of meeting places.

Interestingly, many people also like to keep the city centre as it is now. "It is good the way it is" and "I hope everything stays as it is so I can cherish my memories". 14% of respondents would leave the city centre as it is mainly because of the memories and associations one has with the city centre. "For it to have a personal meaning for me, a personal event with memory must take place" (Own survey, 2022). By not letting the city centre change too much, memories remain which in turn provides a certain meaning to a place.

4.7 Summary descriptive statistics

This survey contains a representative distribution between gender and age groups, as well as in the number of years respondents have lived in Nijmegen. The only personal characteristic that is not evenly distributed is ethnic background so it is also excluded from the results. The significance of the city centre was tested in several ways. When asked whether Nijmegen's city centre is a meaningful place, respondents answered with an average of 3.96 out of 5. 22% scored high on this question by answering with a mark of 5 and only 5.9% of respondents scored 2 or lower. Despite this high mark, there is always room for improvement. The respondents who scored a 2 or lower were directed straight to the question of how the city centre should change to mean more. It appears from the answers of not only the respondents who scored low on the significance of the city centre but of all respondents that more greenery was mentioned the most. More greenery in the city centre can make it a more beautiful place to be and more and creates more meeting places. These are two aspects that respondents said could improve the significance of the city centre.

The survey of this study additionally asked about the most meaningful places in the whole city of Nijmegen. This question tested the extent to which the city centre was mentioned and 54% of the answers referred to the city centre or a section. In addition, the survey also asked about the most meaningful places in the city centre itself. Lange Hezelstraat, the Waal, Saint Stephen's church, the Market and Lux emerged as the most frequently mentioned places. According to respondents, many of these meaningful places have meaning because of the good personal memories or physical aspects of the places. They are also often meeting places with a good atmosphere and a feeling of home.

These places all have a meaning for respondents and to find out which factor contributes most to this, eight statements were presented. For each statement, the extent to which it affects the significance of the city centre was indicated. The results showed that the statements: "It is a beautiful place to be", "I am attached to the city centre" and "It is an important place for meeting social contacts" scored high. We then looked at what the averages were on the statements per meaningful place in the city centre. Again, the three statements mentioned above emerge with strikingly high scores on the statement "I am attached to the city centre". Motives for visiting the city centre scored high mainly on catering visits, but shopping and errands also scored high.

5. Correlation and linear regression

This chapter contains the explanatory analysis where the respondents' answers are analysed. The aim of this chapter is to find out which variables affect the sense of place. This is first tested by finding out whether correlations can be found between different variables. Correlation tests indicate whether there is a relationship between variables or not, but from this, it is not possible to conclude what the causality of this relationship is. The causality of these relationships is then tested with linear Regressions.

5.1 Correlations

This section will describe the correlations from this study. It will start with the correlation between the meaning of the city centre and different variables. It will then correlate the eight statements that influence the sense of place (Paragraph 4.5) with different variables. Most variables used for these correlation tests have a ratio or interval level that is common with these tests. However, some variables that are used are nominal and ordinal levels, this was used this way because the categories are roughly the same size, but not always common with these tests.

Correlation between the meaning of the city centre and different variables

This study investigates which factors contribute most to a sense of place. To find out whether respondents see the city centre as a meaningful place, the following question was asked: "Is Nijmegen's city centre a meaningful place for you?" Respondents could give a mark to indicate the extent to which Nijmegen's city centre is a meaningful place. Correlations were then carried out to see whether personal characteristics, number of years living in Nijmegen or number of times visiting the city centre are correlated with this meaning. The question of whether the meaning causes the city centre to be visited more often was also added to this correlation.

The table below shows that there is no correlation between personal characteristics and the meaning of the city centre. There is no correlation between gender or age. Also income or number of years living in Nijmegen does not correlate. The variable age has a minus sign, meaning that the lower the age the higher the score of the meaning of the city centre (but it is not significant). However, a significant correlation was found between the number of times visiting the city centre and the meaning of the city centre. This is a positive correlation, which means that if the respondents visit the city centre more often the meaning of the city centre will also increase. The correlation between the meaning of the city centre and the variable "The meaning the city centre has for me makes me visit it more" is also significant. The respondents who score high on the meaning of the city centre will visit it more often.

Figure 17 Correlation

Correlation between the meaning of the city centre and different variables		
Gender	Pearson Correlation Sig. (2-tailed)	,047 ,355
Age	Pearson Correlation Sig. (2-tailed)	-,007 ,884
Gross monthly income	Pearson Correlation Sig. (2-tailed)	,002 ,967
Number of years living in Nijmegen	Pearson Correlation Sig. (2-tailed)	,077 ,129
Number of times visiting the city centre	Pearson Correlation Sig. (2-tailed)	,347** <,001
The meaning the city centre has for me makes me visit it more often	Pearson Correlation Sig. (2-tailed)	,611** <,001

*Correlation is significant at the 0,05 level (2-tailed)

**Correlation is significant at the 0,01 level (2-tailed)

Source: own survey (2022)

Correlation between age and the 8 statements

The second correlation is between the variable 'age' and the 8 statements. The table below shows the degree of correlation between the variables. The number after the Pearson correlation indicates the strength of the relationship between the variables. The table below shows that a number of factors differ by age. Three factors correlate with the variable age and have a significant relationship with the variable age. These factors are: "I am attached to the city centre", "It is an important place for meeting social contacts" and "The city centre is a part of my identity". The higher the age the higher the score is of the attachment and the identity. The results also revealed a negative correlation between age and finding the city centre an important place for social contact. This negative correlation is because with the variable age, how younger the respondents are the higher the statement "It is an important place for meeting social contacts" will score. For the rest of the factors, no significant relationship could be found with age.

Figure 18 correlation

Correlation age		
I depend on city centre facilities for my purchases	Pearson Correlation Sig. (2-tailed)	,066 ,219
I am attached to the city centre	Pearson Correlation Sig. (2-tailed)	,124* ,020
It is an important place for meeting social contacts	Pearson Correlation Sig. (2-tailed)	-,217** <,001
There is a lot to do in the city centre in terms of activities	Pearson Correlation Sig. (2-tailed)	-,005 ,930
It is a beautiful place to be	Pearson Correlation Sig. (2-tailed)	,061 ,253
I have strong memories of the city centre as a place	Pearson Correlation Sig. (2-tailed)	-,033 ,532
The city centre is a part of my identity	Pearson Correlation Sig. (2-tailed)	,124* ,021
I am proud of my city centre	Pearson Correlation Sig. (2-tailed)	,090 ,094

*Correlation is significant at the 0,05 level (2-tailed)

**Correlation is significant at the 0,01 level (2-tailed)

Source: own survey (2022)

Correlation between income and the 8 statements

The variable 'income' is correlated with the 8 factors influencing the sense of place. This correlation shows that there is little correlation between the variable income and the 8 factors, except with the factor "I am attached to the city centre". There is a significant correlation between the level of income and the degree of attachment. The higher the income is the higher the correlation with the statement "I am attached to the city centre". The minus signs in this table mean, the lower the income the higher the score of the statement.

Figure 19 correlation

Correlation income		
I depend on city centre facilities for my purchases	Pearson Correlation Sig. (2-tailed)	-,007 ,890
I am attached to the city centre	Pearson Correlation Sig. (2-tailed)	,144** ,007
It is an important place for meeting social contacts	Pearson Correlation Sig. (2-tailed)	-,035 ,519
There is a lot to do in the city centre in terms of activities	Pearson Correlation Sig. (2-tailed)	,005 ,932
It is a beautiful place to be	Pearson Correlation Sig. (2-tailed)	,082 ,125
I have strong memories of the city centre as a place	Pearson Correlation Sig. (2-tailed)	-,027 ,615
The city centre is a part of my identity	Pearson Correlation Sig. (2-tailed)	,040 ,459
I am proud of my city centre	Pearson Correlation Sig. (2-tailed)	,051 ,336

*Correlation is significant at the 0,05 level (2-tailed)

**Correlation is significant at the 0,01 level (2-tailed)

Source: own survey (2022)

Correlation between gender and the 8 statements

To find out whether there is a correlation between the score of the 8 factors and gender, a correlation test was done. From this test, it can be seen whether a particular gender answered differently in terms of the 8 factors that influence the sense of place. The correlation test reveals 1 significant correlation, a correlation can be found between gender and the statement "I have strong memories of the city centre as a place". This correlation is a negative correlation meaning that men score higher on this statement than women because in the survey the answer 'man' comes first (and that is why it is lower) than the answer 'woman' or 'other'.

Figure 20 correlation

Correlation gender		
I depend on city centre facilities for my purchases	Pearson Correlation Sig. (2-tailed)	,054 ,309
I am attached to the city centre	Pearson Correlation Sig. (2-tailed)	,005 ,919
It is an important place for meeting social contacts	Pearson Correlation Sig. (2-tailed)	,010 ,848
There is a lot to do in the city centre in terms of activities	Pearson Correlation Sig. (2-tailed)	-,083 ,122
It is a beautiful place to be	Pearson Correlation Sig. (2-tailed)	,031 ,589
I have strong memories of the city centre as a place	Pearson Correlation Sig. (2-tailed)	-,139** ,009
The city centre is a part of my identity	Pearson Correlation Sig. (2-tailed)	-,092 ,086
I am proud of my city centre	Pearson Correlation Sig. (2-tailed)	-,016 ,770

*Correlation is significant at the 0,05 level (2-tailed)

**Correlation is significant at the 0,01 level (2-tailed)

Source: own survey (2022)

Correlation between the number of years living and the 8 statements

From the correlation test, no correlation could be found between the number of years living in Nijmegen or the 8 statements. It appears that there is no significant relationship between how long someone lives in Nijmegen and the score on the statement influencing their sense of place.

Figure 21 correlation

Correlation number of years living in Nijmegen		
I depend on city centre facilities for my purchases	Pearson Correlation Sig. (2-tailed)	-,026 ,631
I am attached to the city centre	Pearson Correlation Sig. (2-tailed)	,040 ,453
It is an important place for meeting social contacts	Pearson Correlation Sig. (2-tailed)	-,092 ,084
There is a lot to do in the city centre in terms of activities	Pearson Correlation Sig. (2-tailed)	-,090 ,091
It is a beautiful place to be	Pearson Correlation Sig. (2-tailed)	0,24 ,655
I have strong memories of the city centre as a place	Pearson Correlation Sig. (2-tailed)	,026 ,629
The city centre is a part of my identity	Pearson Correlation Sig. (2-tailed)	-,014 ,795
I am proud of my city centre	Pearson Correlation Sig. (2-tailed)	-,026 ,621

*Correlation is significant at the 0,05 level (2-tailed)

**Correlation is significant at the 0,01 level (2-tailed)

Source: own survey (2022)

Correlation between number of times people visit the city centre with the 8 statements and other variables.

A correlation test was also done here, which looked at whether a relationship could be found between the number of visits and the various factors for a sense of place. The statement: “The meaning the city centre has for me makes me visit it more often” has also been included in this correlation. The table below shows that there are many correlations between the eight statements and the number of times people visit the city centre. Almost all statements (except two) have a significant correlation. So it appears from this correlation that the number of times people visit the city centre in a month correlates with the factors that influence the sense of place. This applies to the following statements: “I depend on city centre facilities for my purchases”, “I am attached to the city centre”, “It is an important place for meeting social contacts”, “There is a lot to do in the city centre in terms of activities”, “It is a beautiful place to be” and “The city centre is a part of my identity”. Besides the eight factors, the statement “The meaning the city centre has for me makes me visit it more often” also has a correlation with the number of times the city centre is visited. The more often respondents visit the city centre, the higher the score on this statement.

Figure 22 correlation

Correlation with number of times people visit the city centre		
I depend on city centre facilities for my purchases	Pearson Correlation Sig. (2-tailed)	,198** <,001
I am attached to the city centre	Pearson Correlation Sig. (2-tailed)	,311** <,001
It is an important place for meeting social contacts	Pearson Correlation Sig. (2-tailed)	,238** <,001
There is a lot to do in the city centre in terms of activities	Pearson Correlation Sig. (2-tailed)	,256** <,001
It is a beautiful place to be	Pearson Correlation Sig. (2-tailed)	,207** <,001
I have strong memories of the city centre as a place	Pearson Correlation Sig. (2-tailed)	-,070 ,190
The city centre is a part of my identity	Pearson Correlation Sig. (2-tailed)	,222** <,001
I am proud of my city centre	Pearson Correlation Sig. (2-tailed)	,087 ,103
The meaning the city centre has for me makes me visit it more often	Pearson Correlation Sig. (2-tailed)	,357** <,001

*Correlation is significant at the 0,05 level (2-tailed)

**Correlation is significant at the 0,01 level (2-tailed)

Source: own survey (2022)

5.2 Regression

This chapter continues with the results of the correlation tests. The variables that correlate are also tested for linearity and causality.

Correlation tests indicate whether there is a relationship between variables or not, but from this, it is not possible to conclude what the causality of this relationship is. To find out whether there is a statistical correlation and what kind of correlation it is, a number of single Linear regression analyses were performed. The variables that have a significant relationship according to the correlation test are used in this chapter to find out whether a linear regression can be found and what the causal relationship is. All Linear regression analyses below were checked for linearity before the regression analysis was performed. All Regressions had a linear relationship between the dependent and independent variables, this makes it clear what correlation is present. To find out whether these correlations also have statistically significant relationships, the regression analysis was performed of all significant correlations from section 5.1.

Meaning of the city centre

To find out the relationship between the Meaning of the city centre of Nijmegen and the number of times visiting the city centre, the following linear regression was performed. The R square indicates how much of the variance in the dependent variable is explained by the explanatory variables. This should be a number between 0 and 1 and the higher the better this regression explains the model. The table below shows that the variable 'Number of times visiting the city centre' explains for 12% a person's significance to Nijmegen's city centre.

F is 53,373, and the probability of observing a value of 53,373 or greater with these degrees of freedom is less than 0,05, as shown in the significance column. Therefore, we can conclude that this regression model contains significant explanatory variables. With the unstandardised coefficients in the diagram under B, it can be seen that when a number of times visiting the city centre goes up by 1, the significance of Nijmegen's city centre will go up by 0,252. The t-test examines whether this effect is significant. Because 0,007 is smaller than alpha 0.05, this can be seen as a significant regression coefficient. As a result, it contains a positive regression. So the causal relationship is the more often respondents visit the city centre the greater the significance of Nijmegen city centre.

Figure 23 Regression analysis between the meaning of the city centre of Nijmegen and the number of times visiting the city centre.

R	R Square	F	Significance
,347	,120	53,373	<,001

	Unstandardized Coefficients	Standardized Coefficients	
	B	t	Sig
(Constant)	3,181	27,542	<,001
Number of times visiting the city centre	,252	7,306	,007

Source: own survey (2022), N=390

Besides the number of times visiting the city centre, a correlation was also found with the statement: “The meaning the city centre has for me makes me visit it more often”. The table below shows that the variable: is the city centre of Nijmegen a meaningful place, explains for 37.3% whether respondents visit the city centre more often because of the significance to the city. F is 207,503, and the probability of observing a value of 207,503 or greater with these degrees of freedom is less than 0,05, as shown in the significance column. Therefore, we can conclude that this regression model contains significant explanatory variables.

For the unstandardised coefficients in the diagram under B, it can be seen that when the respondents gave a number higher to the significance of the city centre of Nijmegen, the answers to the statement: “The meaning the city centre has for me makes me visit it more often” increased by 0,875. The t-test examines whether this effect is significant. Because the significance <0,001 is smaller than alpha 0,05, this can be seen as a significant regression coefficient. As a result, it contains a positive regression. Thus, the causal relationship is the higher the significance of the city centre the more likely the respondents are to visit the city centre because of this significance.

Figure 24 Regression between the meaning of the city centre of Nijmegen and the statement “The meaning the city centre has for me makes me visit it more often”.

R	R Square	F	Significance
,611	,373	207,503	<,001

	Unstandardized Coefficients	Standardized Coefficients	
	B	t	Sig
(Constant)	-,294	-1,166	,245
Is the city centre of Nijmegen a meaningful place?	,875	14,405	<,001

Source: own survey (2022), N=349

Personal characteristics; Age and income

From the correlation tests, a number of correlations also emerge between the personal characteristics of age and income together with a number of statements that influence the sense of place. The first correlation found is between age and the statement: “It is an important place for meeting social contacts”. This table below shows that the variable 'Age' explains for 12% the score on the statement: “It is an important place for meeting social contacts”. F is 17,229, and the probability of observing a value of 17,229 or greater with these degrees of freedom is less than 0,05, as shown in the significance column. Therefore, we can conclude that this regression model contains significant explanatory variables.

With the unstandardised coefficients in the chart under B, it can be seen that when the age goes up by 1 then the score on the statement goes up by 0,007. The t-test examines whether this effect is significant. Because $<0,001$ is smaller than alpha 0,05, this can be seen as a significant regression coefficient. As a result, it contains a positive regression. Thus, the causal relationship is the older the respondents are the more important meeting social contacts is for forming a sense of place.

Figure 25 Regression between Age and the statement It is an important place for meeting social contacts

R	R Square	F	Significance
,217	,047	17,229	<0,001

	Unstandardized Coefficients	Standardized Coefficients	
	B	t	Sig
(Constant)	4,249	27,836	<,001
Age	,007	-4,151	<,001

Source: own survey (2022), , N=349

In addition, the correlation tests reveal a correlation between age and the statement "The city centre is a part of my identity". The table below shows that the variable 'Age' explains 15% of the score on the statement "The city centre is a part of my identity". F is 5,406, and the probability of observing a value of 5,406 or greater with these degrees of freedom is less than 0,05, as shown in the Significance column. Therefore, we can conclude that this regression model contains significant explanatory variables.

The unstandardised coefficients in the diagram under B show that when age goes up by 1, the score on the statement goes up by 0,009. The t-test examines whether this effect is significant. Because 0,021 is smaller than alpha 0,05, this can be seen as a significant regression coefficient. As a result, it contains a positive regression. The causal relationship is the older the respondents are the more the city centre is a part of their identity.

Figure 26 Regression between Age and the statement The city centre is a part of my identity

R	R Square	F	Significance
,124	,015	5,406	,021

	Unstandardized Coefficients	Standardized Coefficients	
	B	t	Sig
(Constant)	2,463	13,503	<,001
Age	,009	2,325	,021

Source: own survey (2022), N=349

The variable 'Age' explains for 15% the score on the statement "I am attached to the city centre". F is 5,476, and the probability of observing a value of 5,476 or greater with these degrees of freedom is less than 0,05, as shown in the Significance column. Therefore, we can conclude that this regression model contains significant explanatory variables.

The diagram under B shows that when the age goes up by 1, the score on the statement goes up by 0,007. The t-test examines whether this effect is significant. Because 0,020 is smaller than alpha 0,05, this can be seen as a significant regression coefficient. It contains a positive regression. Thus, the causal relationship is the older the respondents are, the greater their attachment is to the city centre.

Figure 27 Regression between Age and the statement I am attached to the city centre

R	R Square	F	Significance
,124	,015	5,476	,020

	Unstandardized Coefficients	Standardized Coefficients	
	B	t	Sig
(Constant)	3,554	25,588	<,001
Age	,007	2,340	,020

Source: own survey (2022), N=349

Attachment to the city centre also correlate with respondents' income. The table below shows that income explains 21% of the score on the attachment. F is 7,358, and the probability of observing a value of 7,358 or greater with these degrees of freedom is less than 0,05, as shown in the significance column. Therefore, we can conclude that this regression model contains significant explanatory variables.

If the income of the respondents goes up by 1 then the score on the attachment will go up by 0,123. The t-test examines whether this effect is significant. Again, the regression coefficient is significant which can be seen because 0,007 is smaller than the alpha of 0,05. The causal relationship here is the higher the income is the greater their attachment to the city centre.

Figure 28 Regression between income and the statement I am attached to the city centre

R	R Square	F	Significance
,144	,021	7,358	,007

	Unstandardized Coefficients	Standardized Coefficients	
	B	t	Sig
(Constant)	3,195	12,826	<,001
Income	,123	2,713	,007

Source: own survey (2022), N=349

Number of times visiting the city centre

The variable number of times visiting the city centre is related to most of the statements from figure 15. Seven regression analyses were conducted with the number of times visiting the city centre as the independent variable. Of the eight statements from figure 15, a correlation can be found with the following statements and the number of times visiting the city centre; "I depend on city centre facilities for my purchases", "I am attached to the city centre", "It is an important place for meeting social contacts", "There is a lot to do in the city centre in terms of activities", "It is a beautiful place to be" and "The city centre is a part of my identity". Besides the eight factors, the statement "The meaning the city centre has for me makes me visit it more often" also has a correlation with the number of times the city centre is visited. To examine causality, seven linear regressions were performed. For each regression, we first found out whether this relationship has a linear relationship and then examined whether the regression analyses were significant.

All correlations with the number of times visiting the city centre have a positive regression. The causal relationships with the number of times visiting the city centre are as follows. The more often respondents visit the city centre the more dependent respondents are on the city centre for city centre facilities. Also, attachment is higher and the city centre is seen as a greater part of identity. In addition, the more often respondents visit the city centre the more important they consider it to be a place where you can meet people or do activities. Also, respondents who visit the city centre more often also score higher on the statement that the city centre is a beautiful place to be. Respondents who already visit the city centre more often are even more likely to visit the city centre because of this meaning / sense of place.

5.3 Analysis of correlation and regression

According to the literature from Chapter 2, a sense of place can be influenced in several ways. Aspects such as personal characteristics, characteristics of a place and affects and meanings influence how we look at and attach to a place. This creates a certain feeling about a place which in this research is referred to as a sense of place. Personal characteristics used in this research are age, gender and years of residence. The rest of the aspects were tested with the respondents via 8 statements and then correlations and linear regression analyses were used to find out what the associations are.

Sense of place is influenced in different ways, and although this may differ for everyone, there are certain similarities among the respondents in this study. The significance of Nijmegen city centre scored reasonably high with a 3.96 out of 5. Most respondents in this survey consider Nijmegen city centre to be a meaningful place. Correlation tests were conducted to find out whether there is a correlation between this meaning of the city centre with personal characteristics, the eight factors and the variable "The meaning the city centre has for me makes me visit it more often". This correlation test shows that the meaning of the city centre has a correlation with the number of times visiting the city centre and the variable "The meaning the city centre has for me makes me visit it more often". It appears that the more often respondents visit the city centre the higher the meaning score is. From this, it can be concluded that the frequency of visits affects the significance of the city centre. There is also a correlation between respondents scoring high on the meaning of city centre and visiting it more often because of this meaning. It appears that especially the group of respondents who already find the city centre a meaningful place are also more likely to visit it because of this significance.

This survey asked about the meaningful places throughout Nijmegen and specifically in the city centre. What is striking about the meaningful places throughout Nijmegen is that 54% of respondents answered the city centre or a part of the city centre. This indicates that the city centre is seen as a meaningful place by more than half of the respondents. Then, when asked what is the most meaningful place specifically in the city centre, respondents answered with: The Lange Hezelstraat, The Waal, Saint Stephen's church, the market and Lux.

The eight factors that influence the sense of place are tested via the averages of eight statements submitted to the respondents. The statement that scores highest is the statement "It is a beautiful place to be" in which the physical setting is perceived as important. This shows that inhabitants see the city centre as a meaningful place when it is a beautiful place. This is also reflected in the answers in terms of meaningful places in the city centre. The Lange Hezelstraat was mentioned the most. According to respondents from this survey, this street is a meaningful place because it is a beautiful street with old historical buildings. This street was also mentioned because of the nice cafés where you can meet people. This is also reflected in the high score of the statement "It is an important place for meeting social contacts". Incidentally, this also applies to the market and LUX, here respondents also gave the reason that these are important places for them to meet people. The statements "I am attached to the city centre" and "I have strong memories of the city centre as a place" also scored high among respondents. It can be concluded from this that this sense of place is partly created by a certain feeling of attachment to a place, but memories also play a major role.

From the respondents' answers, it often emerged that a place with strong personal relations often had a lot of meaning. Places where people got married or where they met were mentioned. The statement "I depend on city centre facilities for my purchases" scores the lowest of all the statements. Although this fits with the changing visit motive of the city centre in recent years, it is not fully reflected in respondents' visit motives. Respondents indicated the three main reasons for visiting the city centre. Visiting the catering was mentioned most often, but notable is the high score of the visit motive of shopping and grocery shopping. Despite the fact that the respondents were not inhabitants of the city centre itself, they visited the city centre a lot for (grocery) shopping. From this, there does appear to be some form of dependence on the facilities in the city centre.

Personal characteristics also affect the factors that influence sense of place. Variables such as age, gender and income can affect the score of the 8 statements influencing the sense of place. The correlation test revealed a correlation between Age and the following three statements: "I am attached to the city centre", "It is an important place for meeting social contacts" and "The city centre is a part of my identity". It appears from this correlation that the older the respondents are the greater the attachment is to the city centre and, in addition, the city centre is more often a part of the identity among people of higher age. For the statement "It is an important place for meeting social contacts", the correlation with age applies the other way round. The younger the respondents, the higher they scored on this statement. It appears that more young people find the city centre a meaningful place because of the social aspect compared to older people.

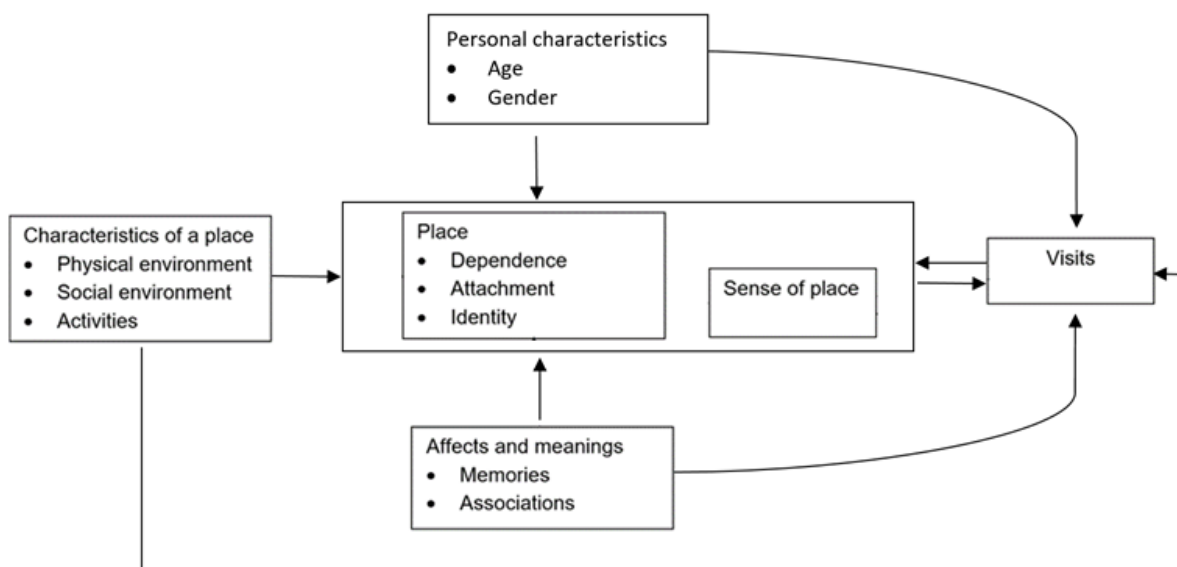
Because older respondents more often feel more attachment to the city centre and also see the city centre as part of their identity, the assumption arises that the older someone is, the longer they live in this place. Yet this assumption turns out to be wrong. The correlation shows that there is no connection between the number of years living in Nijmegen and the 8 factors that influence the sense of place. The number of years someone has lived in Nijmegen does not correlate with the sense of place, or any of these 8 statements. In contrast, the number of times visiting the city centre has more influence. The correlation test shows that almost all statements have a correlation with the number of times someone visits the city centre. Only the statements "I have strong memories of the city centre as a place" and "I am proud of my city centre" have no significant correlation with the number of times visiting the city centre. For the other six statements, it appears that the more often respondents visit the city centre, the higher the score of the statements. From this, it can be concluded that the sense of place is enhanced/influenced by the frequency of visit.

Besides the variable age and number of visits to the city centre, income also affects the statement "I am attached to the city centre". The correlation shows that there is a significant relationship between income and the attachment to the city centre. The higher the income the more attachment. The assumption here is that this has to do with the fact that activities in the city centre cost money. When people have more to spend, they will feel more attached to the city centre.

Despite the fact that the statement “I have strong memories of the city centre as a place” does not correlate with visit frequency, a correlation can be found with the variable gender. The correlation test showed that the variable gender only correlates with strong memories. It turns out that men scored higher on the statement “I have strong memories of the city centre as a place” than women. From this, it can be concluded that male respondents give more meaning to the city centre through memories than female respondents.

This study showed that the conceptual model needed a slight modification. For personal characteristics, the variables Ethnic background and years of residence were removed. Years of residence did not affect the sense of place and ethnic background was taken out during analysis because of the lack of diverse backgrounds. The rest of the variables all affect the sense of place, but some have more influence than others.

Figure 29 conceptual model



Source: own work

6. Conclusion, recommendation and reflection

This chapter will answer the main question of this study by analysing the answers to the sub-questions and thus answering the main question. Recommendations for follow-up research will then follow, followed by a reflection on the research process.

This study focused on the various factors influencing the sense of place. With the recent challenges such as the economic crisis, the arrival of online shopping, and the closure of stores due to Covid, concerns about city centres arose. The economic crisis caused people to lose their jobs, online shopping created more competition in terms of physical shops, and in 2020, the Covid virus caused shops to close temporarily. Despite these huge changes, people continued to visit the city centre, and with this as a reason, this study explored what the city centre means to inhabitants and the associated factors of this sense of place. In this research sense of place refers to the attachment or emotional bond people have with a place or the meaning one attributes to such areas (Kaltenborn & Williams, 2002). It became clear that the city centre has a certain meaning for inhabitants. This meaning was examined in this research and then it was investigated which factors have the most influence on this meaning/ sense of place and whether this also affects the frequency of visits. This research was conducted among the inhabitants of Nijmegen. The main question of this research is therefore: "What are the most important factors that contribute to a sense of place in the city centre of Nijmegen for inhabitants and to what extent is sense of place a reason to visit the city centre?"

To answer this main question, the study used three sub-questions. 1. What are the most meaningful places in the city centre of Nijmegen?, 2. How important are the various factors that contribute to a sense of place?, 3. To what extent is this sense of place a reason for the inhabitants of Nijmegen to visit the city centre?

This survey has shown that the average inhabitant of Nijmegen finds the city centre a meaningful place. This survey shows that besides the high score on the significance of Nijmegen city centre (3,96 out of 5), this is also reflected in the answers of the most meaningful places in the whole city of Nijmegen. 54% of the answers referred to the city centre or a part of the centre as a place with a lot of meaning. This survey then went on to ask about the most meaningful places in the city centre itself. Respondents indicated places in Nijmegen's city centre and it is striking that the Lange Hezelstraat was named most often. Respondents indicated that this is a beautiful street where you can also go to meet people in the cafés or restaurants. For the same reasons, the Market was also often named just like the Waal, but respondents also chose the Waal because of its calming character within a busy city. Arthouse LUX also often comes back as a meaningful place and so does Saint Stephen's Church. Comments from respondents were "Saint Stephen's Church, defining the identity of the city and the skyline". What is striking about the explanations of why certain places are meaningful is that respondents mainly mentioned places with a particular personal memory. From places where people got married to pubs reminiscent of their student days. Physical aspects also often feature in the answers, meeting places and places with a good atmosphere were often mentioned. The city centre was also often compared to home, thus giving a feeling of being home.

These explanations are very similar to the various factors that literature suggests influence the sense of place. In this study, eight factors (in addition to personal characteristics) were tested through the averages of statements. Of the eight factors influencing the sense of place, the statement, "It is a beautiful place to be", scores the highest. This is also evident from the answers about the most meaningful places specifically in Nijmegen city centre such as the abovementioned Lange Hezelstraat or the market. From the literature of Tuan (1980) and Relph (1976), the physical setting also regularly recurred as an important factor influencing sense of place. In addition, according to Eisenhauer et al (2000), the social setting also plays a major role in the sense of place which in this study mainly recurs in the form of meeting places. The Lange Hezelstraat and the market were also seen as meeting places which are reflected in the high score of the statement "It is an important place for meeting social contacts". The statements "I am attached to the city centre" and "I have strong memories of the city centre as a place" also scored high among respondents. It can be concluded from this that this sense of place arises partly from a particular sense of attachment to a place, but memories also play a major role.

Personal characteristics also affect the factors influencing the sense of place. Variables such as age, gender, and income can affect the score of the 8 factors influencing sense of place. From the correlation tests, some correlations can be found between the factors (8 statements) and personal characteristics. The correlation test revealed a correlation between Age and the following three statements: "I am attached to the city centre", "It is an important place for meeting social contacts" and "The city centre is a part of my identity". According to the linear regression the older the respondents, the greater the attachment to the city centre and the more the city centre is part of their identity. When it comes to meeting social contacts, it is the other way around and it appears that the younger the respondents, the more important this factor is.

Interestingly, no correlation could be found with the number of years living in Nijmegen, but the number of times visiting the city centre did. This research shows that the more often respondents visit the city centre, the higher the score for most statements. According to Shamsuddin & Ujang (2008) repeated experiences of a place is necessary for a person to build attachment and meanings. Only the statements "I have strong memories of the city centre as a place" and "I am proud of my city centre" have no significant relationship with the number of times visiting the city centre. Thus, the number of times visiting the city centre affects the sense of place. Respondent's income also has an influence, showing that the statement: "I am attached to the city centre" scores higher among respondents with a higher income.

Respondents who visit the city centre more often score higher on the factors influencing the sense of place. According to Hashemnezhad et al (2013), People attach great value to their city. When a place becomes important, it can create a positive sense of place. This bond ensures the connection and returns to a place. In this study, this was also investigated by asking to what extent respondents agreed with the following statement: "The meaning the city centre has for me makes me visit it more often". With an average of 3.28, it scores fairly neutral, 49% of respondents agree or totally agree with the statement and 30% are neutral. Almost half of the respondents are more likely to visit the city centre because of this sense of place. Sense of place will certainly influence visit frequency because the sense of place creates a certain attachment to a place, but mainly on the visitors who already enjoy visiting the city centre often.

According to respondents, increasing this sense of place can be done by adding more greenery to the city. Green places make the city more beautiful which fits the statement “it is a beautiful place to be”, but green places also serve as meeting places in the city which is also an important aspect of the sense of place. The more often inhabitants visit the city centre the greater the sense of place. Focusing on the most important factors would increase the sense of place making inhabitants even more likely to visit the city centre.

Returning to the main question, “What are the most important factors that contribute to a sense of place in the city centre for inhabitants and to what extent is sense of place a reason to visit the city centre?” Factors that most influence the sense of place are the physical settings like places that are perceived as beautiful, these are often places with historical buildings or a place related to nature such as the Waal or parks in the city. In addition, not only the physical setting, but also the function of a place affects the sense of place. Respondents' answers show that meeting places are mainly places with a lot of meaning. This varies from cafes and restaurants to public green spaces in the city. Also, according to the respondents in this study, the most meaningful places are often related to personal events. The memories of places with strong personal relations create a certain sense of attachment that influences this sense of place. This sense of place influenced by these factors will certainly have some influence on the frequency of visits. However, this mainly applies to inhabitants who already often visit the city centre, because they feel attached to this place by the factors mentioned above, among others, a certain attachment arises. When a city centre has many beautiful spots and or meeting places, the sense of place may be higher and therefore more attractive to visit this place again.

Recommendations

In recent years, cities have faced many challenges. For instance, the economic crisis has caused some people to lose their jobs, resulting in less spending. Online shopping meant that the city centre was no longer the only place to shop and the pandemic caused by the Covid-19 virus meant that physical shops had to close temporarily. These challenges have made city centres more concerned with keeping this place vital in recent Years. Partly during the Covid-19 period, it was discovered that the city centre has a certain sense of place for inhabitants. This sense of place has been studied in several ways, but little was known in the literature about which factors most influence this sense of place. This research showed that the factor of meeting contributes a lot to the sense of place. This is true not only in cafés or restaurants, but also outside in parks or places where people do not necessarily have to spend money. A follow-up study that could be valuable is to figure out how a city centre can create more diverse meeting places that do not necessarily cost inhabitants money. It may be useful to find out in city centres what kind of meeting places are missing so cities can respond to this. Another factor that creates a lot of significance is that inhabitants see the city centre as a beautiful place to be. A beautiful place can be different for everyone, yet it is useful to have a clear idea of exactly what this means. A survey of which places in the city centre are seen as most beautiful will be valuable in understanding which places are important within the city centre. This information can be used for any new projects in the city centre.

In this study, besides finding out which factors contribute most to the sense of place, we also looked at the effect on visit frequency. The focus in this study was mainly on the factors and less on visit frequency. A follow-up study could focus more on visit frequency by looking at how much influence

each factor has on the visit frequency. Cities like to know what attracts their inhabitants and in this study it became clear which factors influence it the most, but more information on increasing visitor frequency could be very valuable. A comprehensive study that figures out the extent to which each factor influences visit frequency. It is important for city centres to focus on visitation frequencies, which is why a fair amount of research has been done on this in recent years. Nevertheless, it is important for further studies to focus on to what extent these factors influence visit frequency. In particular, the three most influential factors could be investigated to what extent they influence the number of visits. Also, many studies are focused on visitors, but it is also important to focus on inhabitants as in this study. In addition, it would also be valuable to conduct in-depth interviews with this subject so that more information could be obtained. A combination of surveys and interviews ensure that not only is information known about many people, but also in-depth information in particular. In the case of interviews, probing can provide new information that can be valuable and that has not been thought about beforehand.

Reflection

Despite all the preparations, no research goes perfectly and there are always some things that come your way that you did not consider beforehand. For this study, we chose to conduct an online survey that was shared via a flyer in the mailbox. This is a great way to get to a lot of people quickly, but this way you cannot check whether every survey is completed. Despite the fact that it was said that you always had to complete the questions to continue, respondents were able to stop the survey early, leaving only half the information available. We also chose to exclude respondents who scored 2 or lower on the question: is Nijmegen city centre a meaningful place for you? not to participate in answering the questions about the factors that influence the sense of place. At the time, it seemed like a good choice because this research needed respondents who gave a lot of meaning to the city centre. I only interpreted this myself at higher than 2, but afterward I could have filtered this and found out precisely whether there is a difference in people who give a lot or little meaning to the city centre.

Before distributing the flyers, I had researched well in advance which neighbourhoods I was going to use for this research. I had paid attention to various personal characteristics such as income, family composition, and age, yet it turns out that the ethnic background is mainly Dutch. As a result, it was not possible to test whether there was a difference between the eight factors and ethnic background.

Gathering information through a survey also comes with some drawbacks. Because the survey is made and taken beforehand, not much can be changed afterward. If one runs into a problem somewhere during the analysis, it can no longer be changed because the survey has already been done and it is no longer possible to ask the same respondent something. Everything has to be properly tested beforehand before the survey can be completed. Therefore, the survey was also completed by several people before the flyers went around. An example from this survey that will be done differently in a subsequent survey is question 13. This question asks about the significance of Nijmegen's city centre and respondents filling in a 2 or lower was immediately directed to the last question as mentioned above. Afterward, these respondents could also have filled in the other questions so that, for example, a difference could be investigated between the respondents who scored high and low. These are the drawbacks that one finds out only after taking it.

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8. Appendix

8.1 Survey questions

Onderzoek naar de betekenis van de binnenstad

Start of Block: Default Question Block

Privacy Hallo! Ik ben Keava Richt, masterstudent Economische Geografie aan de Radboud Universiteit.

De binnenstad van Nijmegen heeft de laatste jaren voor grote uitdagingen gestaan, bijvoorbeeld door de verdere opkomst van het online winkelen en de coronapandemie. Toch bleven inwoners de binnenstad bezoeken. Dit was voor mij aanleiding om de betekenis van de binnenstad te onderzoeken. Met het invullen van deze enquête kunt u mij helpen bij dit onderzoek!

Dit onderzoek wordt uitgevoerd door de Radboud Universiteit, in samenwerking met het Nijmeegse adviesbureau DTNP. Wanneer u meedoet aan dit onderzoek, verwerken we de persoonsgegevens die u invult anoniem en gaan we vertrouwelijk om met uw antwoorden.

Ik ga akkoord met deze voorwaarden (1)

End of Block: Default Question Block

Start of Block: Block 1

Vraag 1 Geslacht

Man (1)

Vrouw (4)

Anders (5)



Vraag 2 Leeftijd

Vraag 3 Afgerond opleidingsniveau

- Basisonderwijs / lagere school (1)
 - Vmbo / mavo (2)
 - Havo (3)
 - Vwo (4)
 - Mbo (5)
 - Hbo (6)
 - Wo (7)
 - Anders (8)
-

Vraag 4 Huishoudenssamenstelling op uw woonadres

- Eenpersoonshuishouden (1)
 - Meerpersoonshuishouden (2)
 - Ongehuwd paar (3)
 - Gehuwd paar (4)
 - Gezin (5)
 - Eenoudergezin (6)
 - Anders (7)
-

Vraag 5 Bruto maandinkomen huishouden

- Minder dan 1.500 euro (3)
 - 1.500-3.700 euro (5)
 - Meer dan 3.700 euro (6)
 - Geen antwoord (7)
-

Vraag 6 Etnische achtergrond

- Nederlandse achtergrond (1)
 - Westerse migratieachtergrond (2)
 - Niet-westerse migratieachtergrond (3)
 - Geen antwoord (7)
-



Vraag 7 Wat zijn de vier cijfers van uw postcode?



Vraag 8 Hoeveel jaar woont u in totaal in Nijmegen?

End of Block: Block 1

Start of Block: Algemene vragen over Nijmegen

Vraag 9 Welke plek in de gehele stad Nijmegen betekent veel voor u? Omschrijf deze locatie. (Dit mag elke locatie binnen de stad Nijmegen zijn)

Vraag 10 Waarom betekent deze plek veel voor u?

End of Block: Algemene vragen over Nijmegen

Start of Block: Vragen over de binnenstad van Nijmegen

Vraag 11 Hoe vaak bezocht u de binnenstad de afgelopen maanden gemiddeld?

- Meer dan 3 keer per week (1)
- 2 à 3 keer per week (2)
- 1 keer per week (3)
- 2 à 3 keer per maand (4)
- Minder dan 2 keer per maand (5)



Vraag 12 Wat waren dan de voornaamste redenen van uw bezoek (kies er maximaal drie die het meest van toepassing zijn)

Boodschappen (1)

Winkelen (2)

Ontmoeten (3)

Cultuur (4)

Horeca bezoeken (5)

Anders (6) _____

Uitgaan (7)

Wandelen (8)

Werken (9)

Evenementen (10)

Sporten (11)

Page Break _____

Vraag 13 Is de binnenstad van Nijmegen een betekenisvolle plek voor u?

Geen betekenis

Veel betekenis

1

2

3

4

5

Click to write Choice 1 ()



Skip To: Vraag 18 If Is de binnenstad van Nijmegen een betekenisvolle plek voor u? [Click to write Choice 1] < 2

Vraag 14 Hieronder volgen een aantal stellingen over de betekenis van de binnenstad van Nijmegen. De binnenstad heeft voor mij betekenis omdat:

Helemaal Niet mee Neutraal Mee Helemaal
niet mee eens eens eens eens
eens

1

2

3

4

5

Ik voor mijn aankopen afhankelijk ben van de voorzieningen in de binnenstad ()



Ik gehecht ben aan de binnenstad ()



Het een belangrijke plek is voor het ontmoeten van sociale contacten ()



Er in de binnenstad veel te doen is qua activiteiten ()



Het een mooie plek is om te zijn ()



Ik sterke herinneringen heb bij de binnenstad als plek ()



De binnenstad een onderdeel is van mijn identiteit ()




Ik trots ben op de binnenstad ()



Vraag 15 De betekenis die de binnenstad voor mij heeft zorgt ervoor dat ik de binnenstad vaker bezoek

Helemaal niet mee eens	Niet mee eens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

Click to write Choice 1 () 

Vraag 16 Is er een specifieke plek in de binnenstad die veel voor u betekent?

- Ja, licht toe: (4) _____
- Nee (5)

Vraag 17 Kunt u samenvatten wat de binnenstad voor u betekent?

Vraag 18 Hoe zou de binnenstad moeten veranderen om meer voor u te betekenen?

Vraag 19 Bent u geïnteresseerd in de uitkomsten van dit onderzoek, vul dan uw e-mailadres in.

End of Block: Vragen over de binnenstad van Nijmegen

8.2 Flyer

Help mij met afstuderen!

Vragen? info@dtnp.nl



Onderzoek onder bewoners naar de betekenis van de binnenstad van Nijmegen

Hoi! Ik ben Keava Richt (masterstudent Economische Geografie). Ik ben bezig met mijn scriptie over de binnenstad van Nijmegen. Jij zou mij enorm helpen door mijn enquête in te vullen (10 min.). Alvast bedankt!

dtnp

Radboud Universiteit



8.3 Descriptive statistics

Personal characteristics

	Gender	Age	Ethnic background	Number of years living in Nijmegen
N Valid	393	393	391	390
Mean	2,52	45,6489	1,20	24,9962
Standard deviation	1,508	17,1288	0,903	19,07101
Minimum	1	12	1	0,00
Maximum	5	82,00	7	80,00

Gender

	Frequency	Percentage
Man	194	49,4
Woman	197	50,1
Other	2	,05
Total	393	100

Age

	Frequency	Percentage
0-10	0	0
11-20	13	3,31
21-30	87	22,14
31-40	73	18,58
41-50	57	14,50
51-60	67	17,05
61-70	61	15,52
71-80	34	8,65
81-90	1	0,25
Total	393	100

Ethnic background

	Frequency	Percentage
Dutch background	362	92,1
Western migration background	13	3,3
Non-western migration background	8	2,0
No answer	8	2,0
Missing system	2	0,5
Total	391	99,5

Number of years living in Nijmegen (in total)

	Frequency	Percentage
0-10	123	31,30
11-20	66	16,79
21-30	63	16,03
31-40	50	12,72
41-50	45	11,45
51-60	24	6,10
61-70	21	5,34
71-80	8	2,03
Total	390	99,24
Missing system	3	0,76
Total	393	100

8.4 Sense of place

The significance of the city centre of Nijmegen

	Frequency	Percentage
1-1,9	17	4,32
2-2,9	16	4,07
3-3,9	101	25,7
4-4,9	171	43,51
5	87	22,14
Total	392	99,75
Missing system	1	0,25
Total	393	100

8.5 Types of places that create a sense of place

Meaningful places within all of Nijmegen

	Frequency	Percentage
De Waal	88	20
Binnenstad	46	10,45
Markt	27	6,10
Nijmegen Oost	25	5,70
Valkhofpark	24	5,45
Kronenburgpark	23	5,22
Veur-Lent	23	5,22
Bottendaal	22	5
Sint Stevenskerk	17	3,86
Lange Hezelstraat	15	3,40
Ooij	10	2,30
Goffert park	9	2
Horeca	8	1,80
De universiteit	8	1,80
Lux	7	1,60

Honig complex	6	1,36
Lent	5	1,14
Winkels	5	1,14
Molenstraat	5	1,14
De Wolfskuil	5	1,14
De Kaaij	4	0,90
Parken	4	0,90
Vasim	4	0,90
Berg en Dalseweg	4	0,90
Koningsplein	3	0,68
De waag	2	0,45
De Voorstadslaan	2	0,45
Keizer Karel	2	0,45
Station	2	0,45
Dukenburg	2	0,45
De Vereniging	2	0,45
Heumensoord	2	0,45
Belvedere	2	0,45
Goffert stadion	2	0,45
Park Brakkenstei	2	0,45
De biezen	2	0,45
De Hemel	2	0,45
Mariënbosch	1	0,23
Winkelgebied	1	0,23
Cafe de Fuik	1	0,23
Lindholt	1	0,23
Paterbosje in Hengstdal	1	0,23
West	1	0,23
Smetiusstraat	1	0,23
Radboud Sportcentrum	1	0,23
Heseveld	1	0,23
Cafe de plak	1	0,23
Javastraat	1	0,23
Mariënborg	1	0,23
Doornroosje	1	0,23
Julianaparkje	1	0,23
De Elyzeese velden	1	0,23
Sint-Nicolaas kapel	1	0,23
Waterkwartier	1	0,23
Begraafplaats Daalseweg	1	0,23
TKB	1	0,23
Ovum	1	0,23
Total	440	

Meaningful places in the city centre

	Frequency	Percentage
De Lange Hezelstraat	32	14
De Waal	27	11,80
Sint Stevenskerk	22	9,60
De Grote Markt	21	9,20
Lux	20	8,70
Valkhofpark	15	6,60
De horeca	12	5,20
Molenstraat	10	4,40
De bieb	9	3,90
Kronenburgerpark	9	3,90
De Hemel	6	2,63
Koningsplein	5	2,19
Museum	3	1,32
Centrum	3	1,32
Winkelstraat	3	1,32
Doornroosje	3	1,32
Plein 1944	3	1,32
De Vereniging	2	0,88
Oude stadhuis	2	0,88
Kelfkensbos	2	0,88
TKB	2	0,88
De Waag	2	0,88
Kroegen	1	0,44
Hunnerpark	1	0,44
Smetiusstraat	1	0,44
De Kaaij	1	0,44
Cafe Daen	1	0,44
Ovum Novum	1	0,44
Lindenberg	1	0,44
Goffertpark	1	0,44
Molenstraat kerk	1	0,44
Toko Koro	1	0,44
Gemeentehuis	1	0,44
Cafe Samson	1	0,44
Blonde Pater	1	0,44
Karregas	1	0,44
Cafe de Plak	1	0,44
Total	228	

8.6 Eight factors affecting sense of place

Statement: The city centre has meaning for me because	Mean	Standard Deviation	N valid	Missing
I depend on city centre facilities for my purchases	2.74	1.11	351	42
I am attached to the city centre	3.86	0.92	351	42
It is an important place for meeting social contacts	3.66	1.02	351	42
There is a lot to do in the city centre in terms of activities	3.47	0.92	351	42
It is a beautiful place to be	3.91	0.83	351	42
I have strong memories of the city centre as a place	3.49	1.12	351	42
The city centre is a part of my identity	2.85	1.22	351	42
I am proud of my city centre	3.48	1.05	351	42

Average per meaningful place

Place in the city centre	Catering	Lux	Parks	Saint Stephen's Church	The Waal	Shopping streets	Mean of all respondents
Statements	N=36	N=18	N=13	N=19	N=17	N=37	N=368
I depend on city centre facilities for my purchases	2,60	2,97	2,86	2,81	3,32	2,85	2,74
I am attached to the city centre	3,83	4,28	4,36	4,11	3,94	4,22	3,86
It is an important place for meeting social contacts	3,69	4,14	4,11	3,54	3,72	3,78	3,66
There is a lot to do in the city centre in terms of activities	3,48	3,94	3,88	3,65	3,46	3,59	3,47
It is a beautiful place to be	3,71	4,04	4,23	3,86	4,16	3,96	3,91
I have strong memories of the city centre as a place	3,68	3,96	4,15	3,53	3,51	3,57	3,49
The city centre is a part of my identity	3,12	2,83	3,91	3,11	2,99	3,25	2,85
I am proud of my city centre	3,71	3,39	3,96	3,53	3,56	3,81	3,48

8.7 Correlations

Correlation between the significance of the city centre and different variables

	1	2	3	4	5	6	7	8	9	10	
1. Is the city centre of Nijmegen a meaningful place?	Pearson Correlation	1	0,047	-0,007	-0,012	0,089	0,002	-0,096	0,077	-,347**	,611**
	Sig. (2-tailed)		0,355	0,884	0,812	0,078	0,967	0,059	0,129	0,000	0,000
	N	392	392	392	391	392	392	390	389	392	351
2. Gender	Pearson Correlation	0,047	1	-0,026	0,059	0,020	-0,060	-0,007	-0,021	0,059	-0,044
	Sig. (2-tailed)	0,355		0,611	0,243	0,696	0,233	0,883	0,684	0,245	0,409
	N	392	393	393	391	393	393	391	390	393	351
3. Age	Pearson Correlation	-0,007	-0,026	1	-0,010	-0,050	,133**	0,042	,701**	-0,004	,106*
	Sig. (2-tailed)	0,884	0,611		0,850	0,323	0,009	0,405	0,000	0,933	0,048
	N	392	393	393	391	393	393	391	390	393	351
4. Completed education level	Pearson Correlation	-0,012	0,059	-0,010	1	0,026	,243**	-0,043	-,142**	0,041	-0,063
	Sig. (2-tailed)	0,812	0,243	0,850		0,610	0,000	0,400	0,005	0,422	0,239
	N	391	391	391	391	391	391	389	388	391	350
5. Household composition	Pearson Correlation	0,089	0,020	-0,050	0,026	1	,373**	0,097	0,024	-0,027	0,095
	Sig. (2-tailed)	0,078	0,696	0,323	0,610		0,000	0,055	0,638	0,588	0,074
	N	392	393	393	391	393	393	391	390	393	351
6. Gross monthly income	Pearson Correlation	0,002	-0,060	,133**	,243**	,373**	1	,143**	,111*	0,024	0,047
	Sig. (2-tailed)	0,967	0,233	0,009	0,000	0,000		0,005	0,028	0,636	0,382
	N	392	393	393	391	393	393	391	390	393	351
7. Ethnic background	Pearson Correlation	-0,096	-0,007	0,042	-0,043	0,097	,143**	1	0,041	0,014	-0,034
	Sig. (2-tailed)	0,059	0,883	0,405	0,400	0,055	0,005		0,425	0,779	0,532
	N	390	391	391	389	391	391	391	388	391	349
8. Years of residence	Pearson Correlation	0,077	-0,021	,701**	-,142**	0,024	,111*	0,041	1	0,002	,120*
	Sig. (2-tailed)	0,129	0,684	0,000	0,005	0,638	0,028	0,425		0,961	0,026
	N	389	390	390	388	390	390	388	390	390	348
9. Number of times visiting the city centre	Pearson Correlation	,347**	0,059	0,004	0,041	0,027	0,024	0,014	0,002	1	,357**
	Sig. (2-tailed)	0,000	0,245	0,933	0,422	0,588	0,636	0,779	0,961		0,000
	N	392	393	393	391	393	393	391	390	393	351
10. The significance the city centre has for me makes me visit it more	Pearson Correlation	,611**	-0,044	,106*	-0,063	0,095	0,047	-0,034	,120*	-,357**	1
	Sig. (2-tailed)	0,000	0,409	0,048	0,239	0,074	0,382	0,532	0,026	0,000	
	N	351	351	351	350	351	351	349	348	351	351

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Correlation between 'Age' and the 8 statements

		1	2	3	4	5	6	7	8	9
1.Age	Pearson Correlation	1	0,066	,124*	-,217**	-0,005	0,061	-0,033	,124*	0,090
	Sig. (2-tailed)		0,219	0,020	0,000	0,930	0,253	0,532	0,021	0,094
	N	393	351	351	351	351	351	351	351	351
2.I depend on city centre facilities for my purchases	Pearson Correlation	0,066	1	,297**	,199**	,123*	,189**	0,021	,161**	,197**
	Sig. (2-tailed)	0,219		0,000	0,000	0,021	0,000	0,690	0,002	0,000
	N	351	351	351	351	351	351	351	351	351
3.I am attached to the city centre	Pearson Correlation	,124*	,297**	1	,348**	,365**	,450**	,473**	,518**	,554**
	Sig. (2-tailed)	0,020	0,000		0,000	0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
4.It is an important place for meeting social contacts	Pearson Correlation	-,217**	,199**	,348**	1	,431**	,266**	,278**	,291**	,246**
	Sig. (2-tailed)	0,000	0,000	0,000		0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
5.There is a lot to do in terms of activities	Pearson Correlation	-0,005	,123*	,365**	,431**	1	,337**	,262**	,356**	,317**
	Sig. (2-tailed)	0,930	0,021	0,000	0,000		0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
6.It is a beautiful place to be	Pearson Correlation	0,061	,189**	,450**	,266**	,337**	1	,282**	,360**	,488**
	Sig. (2-tailed)	0,253	0,000	0,000	0,000	0,000		0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
7.I have strong memories of the city centre as a place	Pearson Correlation	-0,033	0,021	,473**	,278**	,262**	,282**	1	,563**	,453**
	Sig. (2-tailed)	0,532	0,690	0,000	0,000	0,000	0,000		0,000	0,000
	N	351	351	351	351	351	351	351	351	351
8.The city centre is a part of my identity	Pearson Correlation	,124*	,161**	,518**	,291**	,356**	,360**	,563**	1	,585**
	Sig. (2-tailed)	0,021	0,002	0,000	0,000	0,000	0,000	0,000		0,000
	N	351	351	351	351	351	351	351	351	351
9.I am proud of my city centre	Pearson Correlation	0,090	,197**	,554**	,246**	,317**	,488**	,453**	,585**	1
	Sig. (2-tailed)	0,094	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
	N	351	351	351	351	351	351	351	351	351
*. Correlation is significant at the 0.05 level (2-tailed).										
**. Correlation is significant at the 0.01 level (2-tailed).										

Correlation between 'Income' and the 8 statements

		1	2	3	4	5	6	7	8	9
1.Income	Pearson Correlation	1	-0,007	,144**	-0,035	0,005	0,082	-0,027	0,040	0,051
	Sig. (2-tailed)		0,890	0,007	0,519	0,932	0,125	0,615	0,459	0,336
	N	393	351	351	351	351	351	351	351	351
2.I depend on city centre facilities for my purchases	Pearson Correlation	-0,007	1	,297**	,199**	,123*	,189**	0,021	,161**	,197**
	Sig. (2-tailed)	0,890		0,000	0,000	0,021	0,000	0,690	0,002	0,000
	N	351	351	351	351	351	351	351	351	351
3.I am attached to the city centre	Pearson Correlation	,144**	,297**	1	,348**	,365**	,450**	,473**	,518**	,554**
	Sig. (2-tailed)	0,007	0,000		0,000	0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
4.It is an important place for meeting social contacts	Pearson Correlation	-0,035	,199**	,348**	1	,431**	,266**	,278**	,291**	,246**
	Sig. (2-tailed)	0,519	0,000	0,000		0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
5.There is a lot to do in terms of activities	Pearson Correlation	0,005	,123*	,365**	,431**	1	,337**	,262**	,356**	,317**
	Sig. (2-tailed)	0,932	0,021	0,000	0,000		0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
6.It is a beautiful place to be	Pearson Correlation	0,082	,189**	,450**	,266**	,337**	1	,282**	,360**	,488**
	Sig. (2-tailed)	0,125	0,000	0,000	0,000	0,000		0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
7.I have strong memories of the city centre as a place	Pearson Correlation	-0,027	0,021	,473**	,278**	,262**	,282**	1	,563**	,453**
	Sig. (2-tailed)	0,615	0,690	0,000	0,000	0,000	0,000		0,000	0,000
	N	351	351	351	351	351	351	351	351	351
8.The city centre is a part of my identity	Pearson Correlation	0,040	,161**	,518**	,291**	,356**	,360**	,563**	1	,585**
	Sig. (2-tailed)	0,459	0,002	0,000	0,000	0,000	0,000	0,000		0,000
	N	351	351	351	351	351	351	351	351	351
9.I am proud of my city centre	Pearson Correlation	0,051	,197**	,554**	,246**	,317**	,488**	,453**	,585**	1
	Sig. (2-tailed)	0,336	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
	N	351	351	351	351	351	351	351	351	351
** . Correlation is significant at the 0.01 level (2-tailed).										
* . Correlation is significant at the 0.05 level (2-tailed).										

Correlation between Gender and the 8 statements

		1	2	3	4	5	6	7	8	10
1. Gender	Pearson Correlation	1	0,054	0,005	0,010	-0,083	0,031	-,139**	-0,092	-0,016
	Sig. (2-tailed)		0,309	0,919	0,848	0,122	0,569	0,009	0,086	0,770
	N	393	351	351	351	351	351	351	351	351
2. I depend on city centre facilities for my purchases	Pearson Correlation	0,054	1	,297**	,199**	,123*	,189**	0,021	,161**	,197**
	Sig. (2-tailed)	0,309		0,000	0,000	0,021	0,000	0,690	0,002	0,000
	N	351	351	351	351	351	351	351	351	351
3. I am attached to the city centre	Pearson Correlation	0,005	,297**	1	,348**	,365**	,450**	,473**	,518**	,554**
	Sig. (2-tailed)	0,919	0,000		0,000	0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
4. It is an important place for meeting social	Pearson Correlation	0,010	,199**	,348**	1	,431**	,266**	,278**	,291**	,246**
	Sig. (2-tailed)	0,848	0,000	0,000		0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
5. There is a lot to do in terms of activities	Pearson Correlation	-0,083	,123*	,365**	,431**	1	,337**	,262**	,356**	,317**
	Sig. (2-tailed)	0,122	0,021	0,000	0,000		0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
6. It is a beautiful place to be	Pearson Correlation	0,031	,189**	,450**	,266**	,337**	1	,282**	,360**	,488**
	Sig. (2-tailed)	0,569	0,000	0,000	0,000	0,000		0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351
7. I have strong memories of the city centre as a	Pearson Correlation	-,139**	0,021	,473**	,278**	,262**	,282**	1	,563**	,453**
	Sig. (2-tailed)	0,009	0,690	0,000	0,000	0,000	0,000		0,000	0,000
	N	351	351	351	351	351	351	351	351	351
8. The city centre is a part of my identity	Pearson Correlation	-0,092	,161**	,518**	,291**	,356**	,360**	,563**	1	,585**
	Sig. (2-tailed)	0,086	0,002	0,000	0,000	0,000	0,000	0,000		0,000
	N	351	351	351	351	351	351	351	351	351
9. I am proud of my city centre	Pearson Correlation	-0,016	,197**	,554**	,246**	,317**	,488**	,453**	,585**	1
	Sig. (2-tailed)	0,770	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
	N	351	351	351	351	351	351	351	351	351
** . Correlation is significant at the 0.01 level (2-tailed).										
* . Correlation is significant at the 0.05 level (2-tailed).										

Correlation between years of residence and the 8 statements

		1	2	3	4	5	6	7	8	9
1.Years of residence	Pearson Correlation	1	0,022	,264**	-,135*	0,033	0,052	,209**	,257**	,205**
	Sig. (2-tailed)		0,678	0,000	0,012	0,534	0,332	0,000	0,000	0,000
	N	390	348	348	348	348	348	348	348	348
2.I depend on city centre facilities for my purchases	Pearson Correlation	0,022	1	,297**	,199**	,123*	,189**	0,021	,161**	,197**
	Sig. (2-tailed)	0,678		0,000	0,000	0,021	0,000	0,690	0,002	0,000
	N	348	351	351	351	351	351	351	351	351
3.I am attached to the city centre	Pearson Correlation	,264**	,297**	1	,348**	,365**	,450**	,473**	,518**	,554**
	Sig. (2-tailed)	0,000	0,000		0,000	0,000	0,000	0,000	0,000	0,000
	N	348	351	351	351	351	351	351	351	351
4.It is an important place for meeting social contacts	Pearson Correlation	-,135*	,199**	,348**	1	,431**	,266**	,278**	,291**	,246**
	Sig. (2-tailed)	0,012	0,000	0,000		0,000	0,000	0,000	0,000	0,000
	N	348	351	351	351	351	351	351	351	351
5.There is a lot to do in terms of activities	Pearson Correlation	0,033	,123*	,365**	,431**	1	,337**	,262**	,356**	,317**
	Sig. (2-tailed)	0,534	0,021	0,000	0,000		0,000	0,000	0,000	0,000
	N	348	351	351	351	351	351	351	351	351
6.It is a beautiful place to be	Pearson Correlation	0,052	,189**	,450**	,266**	,337**	1	,282**	,360**	,488**
	Sig. (2-tailed)	0,332	0,000	0,000	0,000	0,000		0,000	0,000	0,000
	N	348	351	351	351	351	351	351	351	351
7.I have strong memories of the city centre as a place	Pearson Correlation	,209**	0,021	,473**	,278**	,262**	,282**	1	,563**	,453**
	Sig. (2-tailed)	0,000	0,690	0,000	0,000	0,000	0,000		0,000	0,000
	N	348	351	351	351	351	351	351	351	351
8.The city centre is a part of my identity	Pearson Correlation	,257**	,161**	,518**	,291**	,356**	,360**	,563**	1	,585**
	Sig. (2-tailed)	0,000	0,002	0,000	0,000	0,000	0,000	0,000		0,000
	N	348	351	351	351	351	351	351	351	351
9.I am proud of my city centre	Pearson Correlation	,205**	,197**	,554**	,246**	,317**	,488**	,453**	,585**	1
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
	N	348	351	351	351	351	351	351	351	351
** . Correlation is significant at the 0.01 level (2-tailed).										
* . Correlation is significant at the 0.05 level (2-tailed).										

Correlation between number of times visiting the city centre and other variables

	1	2	3	4	5	6	7	8	9	10	
1.Number of times visiting the city centre	Pearson Correlation	1	,198**	,311**	,238**	,256**	,207**	0,070	,222**	0,087	,357**
	Sig. (2-tailed)		0,000	0,000	0,000	0,000	0,000	0,190	0,000	0,103	0,000
	N	393	351	351	351	351	351	351	351	351	351
2.I depend on city centre facilities for my purchases	Pearson Correlation	,198**	1	,297**	,199**	,123*	,189**	0,021	,161**	,197**	,282**
	Sig. (2-tailed)	0,000		0,000	0,000	0,021	0,000	0,690	0,002	0,000	0,000
	N	351	351	351	351	351	351	351	351	351	351
3.I am attached to the city centre	Pearson Correlation	,311**	,297**	1	,348**	,365**	,450**	,473**	,518**	,554**	,611**
	Sig. (2-tailed)	0,000	0,000		0,000	0,000	0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351	351
4.It is an important place for meeting social contacts	Pearson Correlation	,238**	,199**	,348**	1	,431**	,266**	,278**	,291**	,246**	,369**
	Sig. (2-tailed)	0,000	0,000	0,000		0,000	0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351	351
5.There is a lot to do in terms of activities	Pearson Correlation	,256**	,123*	,365**	,431**	1	,337**	,262**	,356**	,317**	,343**
	Sig. (2-tailed)	0,000	0,021	0,000	0,000		0,000	0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351	351
6.It is a beautiful place to be	Pearson Correlation	,207**	,189**	,450**	,266**	,337**	1	,282**	,360**	,488**	,414**
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000		0,000	0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351	351
7.I have strong memories of the city centre as a place	Pearson Correlation	0,070	0,021	,473**	,278**	,262**	,282**	1	,563**	,453**	,395**
	Sig. (2-tailed)	0,190	0,690	0,000	0,000	0,000	0,000		0,000	0,000	0,000
	N	351	351	351	351	351	351	351	351	351	351
8.The city centre is a part of my identity	Pearson Correlation	,222**	,161**	,518**	,291**	,356**	,360**	,563**	1	,585**	,574**
	Sig. (2-tailed)	0,000	0,002	0,000	0,000	0,000	0,000	0,000		0,000	0,000
	N	351	351	351	351	351	351	351	351	351	351
9.I am proud of my city centre	Pearson Correlation	0,087	,197**	,554**	,246**	,317**	,488**	,453**	,585**	1	,518**
	Sig. (2-tailed)	0,103	0,000	0,000	0,000	0,000	0,000	0,000	0,000		0,000
	N	351	351	351	351	351	351	351	351	351	351
10.The significance the city centre has for me makes me visit it	Pearson Correlation	,357**	,282**	,611**	,369**	,343**	,414**	,395**	,574**	,518**	1
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
	N	351	351	351	351	351	351	351	351	351	351
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

8.8 Regression Analyses

The meaning of the city centre

Regression between the meaning of the city centre of Nijmegen and the number of times visiting the city centre. N=390

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,347	,120	,118	,85380	53,373	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	3,181	,115		27,542	<,001
Number of times visiting the city centre	,252	,034	,347	7,306	,007

Regression between the meaning of the city centre of Nijmegen- and "The meaning the city centre has for me makes me visit it more often". n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,611	,373	,371	,82830	207,503	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	-,294	,252		-1,166	,245
Is the city centre of Nijmegen a meaningful place?	,875	,061	,611	14,405	<,001

Personal characteristics: Age and income

Regression between Age and the statement “It is an important place for meeting social contacts”, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,217	,047	,044	1,00655	17,229	<0,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	4,249	,153		27,836	<,001
Age	,007	,003	-,217	-4,151	<,001

Regression between Age and the statement The city centre is a part of my identity, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,124	,015	,012	1,20279	5,406	,021

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	2,463	,182		13,503	<,001
Age	,009	,004	,124	2,325	,021

Regression between Age and the statement I am attached to the city centre, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,124	,015	,013	,91580	5,476	,020

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	3,554	,139		25,588	<,001
Age	,007	,003	,124	2,340	,020

Regression between income and the statement I am attached to the city centre, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,144	,021	,018	,91338	7,358	,007

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	3,195	,249		12,826	<,001
Income	,123	,045	,144	2,713	,007

Number of times visiting the city centre

Regression between number of times visiting the city centre and I depend on city centre facilities for my purchases, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,198	,039	,037	1,08661	14,282	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	2,182	,158		13,840	<,001
Number of times visiting the city centre	,176	,047	,198	3,779	<,001

Regression between number of times visiting the city centre and I am attached to the city centre, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,311	,097	,094	,87705	37,495	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	3,133	,127		24,618	<,001
Number of times visiting the city centre	,230	,038	,311	6,123	<,001

Regression between R number of times visiting the city centre and It is an important place for meeting social contacts, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,238	,056	,054	1,00156	20,889	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	3,038	,145		20,904	<,001
Number of times visiting the city centre	,196	,043	,238	4,570	<,001

Regression between number of times visiting the city centre and There is a lot to do in the city centre in terms of activities, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,256	,066	,063	,89397	24,489	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	2,874	,130		22,154	<,001
Number of times visiting the city centre	,190	,038	,256	4,949	<,001

Regression between number of times visiting the city centre and it is a beautiful place to be, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,207	,043	,040	,81464	15,554	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	3,475	,118		29,396	<,001
Number of times visiting the city centre	,138	,035	,207	3,944	<,001

Regression between number of times visiting the city centre and The city centre is a part of my identity, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,222	,049	,047	1,18177	18,128	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	2,181	,171		12,717	<,001
Number of times visiting the city centre	,216	,051	,222	4,258	<,001

Regression between number of times visiting the city centre and The Significance the city centre has for me makes me visit it more often, n=349

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Significance
,357	,127	,125	,97713	50,884	<,001

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	2,344	,142		16,530	<,001
Number of times visiting the city centre	,299	,042	,357	7,133	<,001