



REGIONAL DIFFERENCES OF SOCIAL COHESION IN THE NETHERLANDS

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Abstract:

Social cohesion has in recent years increasingly been the subject of academic studies in the Netherlands. This growing interest in the subject can be explained by increasing scientific curiosity as well as policy enhancing research. Still, there is no picture of the regional differences of social cohesion in the Netherlands. This research aims to explore these regional differences by mapping out social cohesion in all Dutch municipalities (N = 342), statistically investigating what might be causing these differences and finally further examining the eastern regions of Achterhoek and Twente in a case study. Based on the theoretical framework, it is expected that social cohesion is higher in more rural areas. The social cohesion map confirmed this expectation and also revealed that there are three high social cohesion regions in the Netherlands: Wadden Island, Twente and Achterhoek. Statistical analysis reveals that social cohesion indeed increases as urbanization decreases. Furthermore, ethnic variation and excessive alcohol use are positively related to social cohesion, and economic inequality and education level are negatively related to social cohesion. The case study showed that residents from the Achterhoek and Twente indeed experience a strong social cohesion in their neighbourhoods/communities.

Summary:

This research aims to gain insights into regional differences of social cohesion in the Netherlands. This was done by mapping out social cohesion across the country, analyzing quantitative social cohesion data in relation to a number of other variables and finally a case study into the social coherence specifically in the eastern Dutch regions of Achterhoek and Twente.

This research is societally relevant because strong social cohesion is a societal characteristic worthy of aspiration for any kind of society, on any kind of scale. Being socially engaged as a society positively influences individual's mental as well as physical health. Governments attempt to make policy which of course fosters this coherence. Such policies are based on the results of research like this one. This way this research is of value to society as a whole.

This research is scientifically relevant because there are gaps in the scientific knowledge about social cohesion. Recent studies on regional differences in social cohesion only compared small amounts of regions with each other. A small number of research objects makes the findings of the research more susceptible to possible deviations and coincidences. In this thesis, all 342 Dutch municipalities are included in the analysis, making it the first research which investigates regional differences in social cohesion on such a large scale. Also, most of the studies on this subject are conducted in the US and there has not been a study on regional differences in social cohesion before in the context of the Netherlands. Therefore, this is the first research that does investigate this specific subject and therefore attempts to fill in this knowledge gap.

Being a bit familiar with the ideas of the classical sociologist Durkheim, Tönnies, Simmel and Wirth, I wanted to test the empirical findings against the theories of these thinkers. An extensive literature revealed that these thinkers were the first ones to engage with the subject of social cohesion. Emile Durkheim made in one of his most famous works a distinction between two kinds of social fabrics: mechanical solidarity and organic solidarity. Mechanical solidarity refers to a pre-modern society with a simple labor division in which all people act and think similarly. Organic solidarity refers to a modern society with a complex labor division in which people do not necessarily act and think alike each other anymore.

Ferdinand Tönnies formulated a similar distinction: community and society. His notion of community refers to a group of people that is socially connected for the sake of the community, sharing the same values and beliefs. His notion of society refers to a modern capitalistic social fabric, in which people have less personal and more instrumental relationships and do not share the same values and beliefs. Both Durkheim and Tönnies believed that social coherence erodes as societies progress from a pre-modern to modern social fabric.

Simmel and Wirth formulated also a dichotomy of social fabrics, but more specifically between urban and rural areas. George Simmel thought that urban life was fundamentally

different from rural life. Life in cities is in contrast to life on the countryside characterized by anonymity, fleeting social contact and an (over)abundance of different (social) stimulations. One of the consequences of this, is that social cohesion is less strong in large cities.

Wirth similarly believed that urbanism is a form of human organization which is harmful to social life. Increasing settlement size, settlement density and heterogeneity of the population causes social cohesion to decline.

The ideas of these thinkers described above could be roughly summarized in a single hypothesis: urbanization negatively influences social cohesion. In the literature this grand hypothesis is referred to as the linear development model and it has been empirically confirmed in previous studies more often than it has been rejected. Therefore, it will also serve as the main hypothesis for this research.

The two most important variables in this research are thus urbanization and social cohesion. Urbanization is the independent variable and social cohesion the dependent variable, between which a negative relationship is expected. Three additional independent variables, which are related to urbanization, have been derived from the literature to include in the research. These variables are ethnic variation, economic inequality and high education level. Ethnic variation and economic inequality are expected to have a negative effect, and high education level is expected to have a positive effect on social coherence. Also, a new and previously never in this context tested variable has been included, which is excessive alcohol use. It is expected that excessive alcohol use has a positive effect on social cohesion. This is based on the reasoning that this might be an indirect effect mediated by social events and activities. The five expected effects of the dependent variables on social cohesion described above are moulded in five hypotheses. For the most important variable, social cohesion, data from Bureau Louter has been received and used. In this data social cohesion is measured with seven different indicators. Together these indicators constitute a total score of social cohesion per municipality. These scores are the average social cohesion between 2006 and 2021. The degree of urbanization is measured as the population density per municipality. Ethnic variation is measured as the relative shares of native Dutch people, people with a western migration background, Moroccans, Antilleans, Surinamese, Turks and remaining people with non-western migration backgrounds per municipality. Economic inequality is measured as the household financial capital inequality per municipality. High education level is measured as the percentage of people that is highly educated per municipality. And finally, excessive alcohol use is measured as the percentage of people that drinks excessively per municipality. It has probably become clear by now that the quantitative analysis is conducted on a municipal scale.

First, after all this quantitative data was gathered, a social cohesion map was made. This map reveals that there are three clusters of municipalities in the Netherlands that show remarkably high levels of social cohesion. These are the regions the Wadden Islands, Achterhoek and Twente. The map also showed (still without statistical evidence) that

social cohesion is very low in large cities.

Next, statistical analyses were done to confirm or reject the hypotheses. Three different hierarchical multiple regression analyses were conducted. In the first one the effects of urbanization, ethnic variation, economic inequality and high education level on social cohesion were tested. In the second regression the independent variables were controlled for aging and average income per municipality. In the final regression excessive alcohol use was added.

The results reveal that population density indeed negatively influences social cohesion. However, as more independent variables are added, this effect becomes considerably weaker. Ethnic variation also negatively influences social cohesion. Economic inequality and high education level only have significant effects when the two control variables are taken into account. Then, both have a negative effect. Why this effect only exists when controlling for aging and average income, remains unclear to the researcher. The new variable, excessive alcohol use, does indeed have a positive effect on social cohesion. This means that all hypotheses, except the one regarding high education level, are confirmed. Because of the results of the map and personal interest and experiences of the researcher, the social cohesion in the eastern Dutch regions Achterhoek and Twente have been further investigated in a case study. First, independent-sample T-test reveal that social cohesion is indeed significantly higher in Achterhoek and Twente, statistically confirming the observation on the social cohesion map. More importantly, three residents of Achterhoek and Twente were interviewed about their personal experience of social cohesion in their neighbourhood/community. The interviewed residents of the regions all experienced high social cohesion in their communities/neighbourhoods and they were all satisfied with the social coherence. Because all the interviewees live in a rural area, their experiences are in line with the statistical results as well as the theoretical works on which this research is based. The residents also think that the social cohesion in their neighbourhoods is higher than the average in the Netherlands, indicating that their experiences are in line with the statistical evidence. However, no good explanation has been found that can explain the remarkably high social cohesion in Achterhoek and Twente. Only prudent suggestions have been identified. Future research could build on this research by examining why social cohesion is so high in the regions of Achterhoek and Twente.

Preface:

This is the bachelor thesis 'Regional differences of social cohesion in the Netherlands'. It has been written to fulfil the requirements of graduation from the bachelor study 'Geography, Spatial Planning & Environment' at Radboud University in Nijmegen, the Netherlands. I started writing this thesis in February 2024 and finished in June 2024. This thesis is the first research that I ever conducted independently. During the months conducting and writing the research I have become familiar with the ins and outs of doing individual research. I realised how difficult it is to keep all the different individual parts of the research connected to the guiding research narrative. Also, I now know that is sometimes hard to keep an overview of all these different parts. The large amounts of different things to be done that are required for the research make the project sometimes a disorderly mess. The same goes for the large amount of data that has to be gathered, cleaned, sometimes corrected and analysed. Still, I think that in the end I have been able to keep enough overview to successfully write a coherent thesis.

Overall, I have learned much and gained some new experiences. For example, the independently gathering, cleaning and analysing statistical data. I also gained some more experience with a few programs I was already familiar with. A personal experience that I gained is that you cannot always progress in a linear line. Periods of progress alternate with periods of stagnation. Therefore, I learned both professional and personal lessons from this Thesis.

I would like to thank my supervisor, Paschalina Garidou, for the excellent collaboration and guidance of the thesis. She was always willing to discuss important matters and questions with me and always tried to find time for a meeting with me. She remained from the beginning also very supportive to my ideas and developments, while at the same time not refraining from being critical. This helped me a lot to get the best out of the project. I would also like to thank Peter Louter from the research institute Bureau Louter. He was kind enough to share the social cohesion data with me. Without his willingness to help, this thesis would have been a very different thesis. I want to give special thanks to my mother for suggesting me to read a publication of Bureau Louter about social cohesion, which was one of the inspirations for this research subject.

Finally, I want to thank the rest of my family and friends, with whom I could always discuss the topic of the research and other difficulties I encountered.

Vince Brummelaar

Groenlo, June 6, 2024

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1. Introduction:

In recent decades, the attention for social cohesion has been growing in the scientific sphere as well as the political realm (Schiefer & Van Der Noll, 2016). This increasing popularity of this term is reflected in the many academic studies as well as policies that have been developed concerning social cohesion (Chan et al., 2006). Many regional, national and transnational governments, such as the Dutch government or the European Union, have been working on policies to foster social cohesion, whatever their definitions may exactly entail (Chan et al., 2006) (Scheurer & Haase, 2017) (Schmeets & Riele, 2013). Also, much research into this concept has been done by formal research institutes, such as Netherlands Statistics (CBS) (Schmeets, 2022) or The Netherlands Institute for Social Research (SCP) (Ministerie van Volksgezondheid, Welzijn en Sport, 2022). This umbrella concept has become, just like the term globalization, a buzzword, but nonetheless research in this particular subject has become to be considered of great importance by scientist as well as policy makers. Despite of the lack of conceptual consensus among scholars about the exact definition of the concept, there has not been a lack of consensus about the importance of social cohesion in society. Social cohesion is seen to be a desirable quality of a society, which must be retained over time as much as possible (Schiefer & Van Der Noll, 2016). Unfortunately, for many decades there has been a sentiment that social cohesion is deteriorating. This possible decline of social cohesion has also been the subject of many, if not most studies regarding social cohesion over the last decades, with Robert Putnam's classic work *Bowling Alone* (Putnam, 2000) being the most famous. In this work he claimed a decline in community sense in the United States, with modern communication technology, such as radio's, televisions and smartphones as the cause of this decline.

Despite the large quantity of research into the development of social cohesion over time, there has been limited research into regional differences in social cohesion. That is a shame, because to fully understand this complex topic it has also to be studied in relation to space. The spatial element of social cohesion introduces new and scarcely investigated questions, such as: Could it be that levels of social cohesion differ in a society depending on the place? Are there certain regions that score higher or lower on social cohesion than other regions? Why do some regions have higher cohesion than other regions? These questions refer the lack of knowledge about regional differences in social cohesion, which is the extent to which levels of social cohesion differ between various regions. This is what will be investigated in this research project. Getting insights in characteristics of certain regions might, elucidate underlying causes that can propose an answer to these kinds of questions. Unravelling these causes can give us a more complete and holistic view of social cohesion, which is needed to complement scientific knowledge about the social world.

The studies that indeed focus on this subtopic of regional differences, where mostly in the United States, and only a few in European or other countries. Especially in the

Netherlands, there has been almost no interest into these regional disparities. Recently, the Dutch research institution Bureau Louter (2023) published their yearly research and ranking of residential attractiveness for every Dutch municipality. As a special topic, they measured social cohesion in every Dutch municipality, using data from the triennial survey 'WoonOnderzoek Nederland' (HousingResearch Netherlands) from Netherlands Statistics (CBS). This research showed that some Dutch regions scored exceptionally high on social cohesion, for example the eastern regions, and other regions scored very low, such as the highly urban areas. However, no effort was put in explaining these regional differences.

This publication of Bureau Louter (2023), and a general interest in the concept of social cohesion, sparked the interest for this particular research project. In this study, regional disparities of social cohesion in the Netherlands will be investigated as well as an attempt to identify what could possibly cause these differences. Empirical reality will be tested against the theoretical works of Ferdinand Tönnies, George Simmel and Louis Wirth, who bluntly hypothesized that urbanization negatively influences social cohesion. Dutch regions will be compared on municipal scale to each other, using an adaptation of Netherlands Statistics (CBS) data from Bureau Louter, and publicly available data from Netherlands Statistics and the National Institute for Public Health and the Environment (RIVM). This data is statistically analysed to investigate which variables are significantly related to social cohesion. Social cohesion will be the dependent variable, with the degree of urbanization as the main independent variable. Three possibly significant additional variables, economic inequality, ethnic variation and average education level, will also be included in the analysis, which are also derived from the theoretical framework that will be explained below. The analysis will be controlled for two variables concerning aging and average income on municipal scale. In addition to that, a new, seemingly paradoxical, previously never tested variable will be added: excessive alcohol use. The motives and argumentation for this variable will be made clear in the conceptualization section. Based on the results from the quantitative analysis, a qualitative case study will further investigate the social cohesion in the eastern Dutch regions of Achterhoek and Twente. Three interviews have been conducted with residents of these regions to gain a deeper understanding of the social cohesion in these specific places and to see whether to statistical analyses are being confirmed by the qualitative interview results. In summary, the objective of this research project is to gain insights into regional differences of social cohesion in the Netherlands, by mapping out social cohesion across Dutch municipalities and identifying underlying causes of these regional differences via theoretical input. The findings of this study will hopefully fill in the gap of scientific knowledge on this particular subject in the Netherlands, and also provide usable knowledge for policy making which will foster social cohesion.

2. Societal Relevance:

As mentioned above, social cohesion has become a major topic in the policy agendas for governments on all possible governmental levels. Since this study focuses on the Netherlands only, the relevance for specifically the Dutch society will be discussed. Social cohesion is important for the proper functioning of our society (Beugelsdijk et al., 2019). Through work, caring for other people and participating in leisure activities people feel connected to each other and part of the societal whole. Repeated research shows that people who actively participate in society and live in places that score high on social binding have on average better physical and mental health (Huygen & De Meere, 2008) (Van Bergen et al. 2018). Social cohesion is also associated with a better quality of life and less loneliness (Feijten et al. 2018). Research of the National Institute for Public Health and the Environment (RIVM, 2020) confirmed these findings during the COVID-19 pandemic. Many aspects of people lives were negatively influenced by the lack of social contact due to the pandemic. Even environmental sustainability (Uzzell et al., 2002), social stability (Stigendal, 2010) and resilience against the COVID-19 pandemic (Razavi et al., 2020) (Dayrit & Mendoza, 2020) have been linked to social cohesion.

These are just a few examples which illustrate the importance and relevance of social cohesion and how it can contribute positively to people's individual lives, and to society as a whole. The Dutch National Government acknowledges this importance and has been increasing her attention towards social coherence through her policies on for example sport (Ministerie van Volksgezondheid, Welzijn en Sport, 2020), poverty reduction (Ministerie van Sociale Zaken en Werkgelegenheid, 2024) and mental health (Ministerie van Algemene Zaken, 2022). These policies are mostly based on expertise of formal Dutch research institutes such as Netherlands Statistics (CBS), The Netherlands Institute for Social Research (SCP), Public Health Service (GGD) and the National Institute for Public Health and the Environment (RIVM), which provide many reports about social cohesion. However, as mentioned above, the regional aspect of social cohesion has (almost) never been investigated by these institutes. There is a lack in the understanding of regional differences in social cohesion. This knowledge gap can lead towards inappropriate policies regarding this subject, because the reports these policies are based on do not give a complete account of social cohesion in the Netherlands. Policies on certain phenomena should always be based on descriptions of reality that reflect this reality as accurate as possible.

Therefore, this research will attempt to fill in this knowledge gap. New insights about the subject will be created, by explaining the regional differences in social cohesion. A complete account of these differences, and an overview of the factors contributing towards social cohesion will provide Dutch policy makers with a more accurate view of the subject, which will in turn enable them to improve their policy making. Factors that contribute to social cohesion in regions that have high levels of social coherence can be

replicated in the policies in other less socially bonded regions for example. The national government, as well as provincial and municipal governments can use the findings of this research to sharpen their policy making.

3. Scientific Relevance:

As mentioned above, there has been a reasonable amount of academic interest in regional disparities in social cohesion over the past decades, but most of these studies were carried out in the United States. The findings were rather inconsistent, with many studies identifying different major predictors for social cohesion.

The reasons for these inconsistencies can probably partly be attributed to contextual differences, but even more so to differences in conceptualizations of social cohesion (Buchecker & Frick, 2020). Some studies used scales of place attachment to conceptualize social cohesion (Theodori & Luloff, 2000) (Goudy, 1982) (Kasarda & Janowitz, 1974) (Von Wirth et al., n.d.), other studies used a Guttman scale for the measurement of community sentiment (A. Christenson, 1979), and some even measured the concept using only one item (Wilson & Baldassare, 1996). One item can understandably never represent the complete complex construct that is social cohesion. These differences in conceptualizations mean that these studies actually measure different social phenomena. Of course do these conceptualizations overlap for large parts, but they do not measure exactly the same construct. This, of course (partly) explains the inconsistency of the findings. Some studies find that prosperity and economic (in)equality are the most important predictors for social cohesion, for others the major predictor is the degree of urbanization, some find the average resident's age of a region and length of stay in that region to be most important, where as some studies even find the heterogeneity of residents in a region to be most significantly correlated.

The first reason this study is relevant for science, is because this study will attempt to use a conceptualization of social cohesion which is broad and usable, including all important aspects of the construct, without excluding certain dimensions of social cohesion, like some of the conceptualizations of recent studies. The conceptualization of social cohesion will be derived from two literature reviews on the concept (Chan et al., 2006) (Schiefer & Van Der Noll, 2016), both of which attempted to recommend a clear and usable definition of social cohesion and came to a similar conclusion. More will be explained about the conceptualization later on.

The second problem in recent studies, which this thesis attempts to overcome and which is another reason this thesis makes a contribution to science, is the fact that much of the previous research did not have the ability to compare different regions. Many studies only studied social cohesion in one certain region (case study), and not across multiple regions to compare the differences. Some almost exclusively concentrated on urban areas (Kasarda & Janowitz, 1974), whereas for other studies the focus was mainly on rural areas

(Theodori & Luloff, 2000). The studies which did compare regions with different characteristics, did only so with limited amounts of regions. Buchecker and Frick (2020) for example, compared only four different regions in Switzerland based on the degree of urbanization. Theodori and Luloff (2000) also compared only four regions, but in the United States. Lancee & Dronkers (2011) compare social trust between thirteen Dutch communities, which is a bit more, but to generalise to a larger population (for example the Dutch society) more research objects would be better. A small number of research objects makes the findings of the research more susceptible to possible deviations and coincidences. This thesis attempts to overcome these problems by comparing all 342 Dutch municipalities, to make sure that the statements about the whole of Dutch society can be made.

The third and probably most important point regarding the scientific relevance is the limited amount of scientific research in regional differences of social cohesion in the specific context of the Netherlands. As mentioned before, there has been a reasonable amount of interest by Dutch formal research institutes such as the CBS and SCP, which mostly study social cohesion commissioned by the Dutch government. The question regarding the regional differences, however, has never been addressed in these studies. The Dutch scholars that do show interest in social cohesion, addressed other subtopics such as the decline of social cohesion in the Netherlands (H. Schmeets & Riele, 2013), the effect of ethnic diversity on social cohesion (Lancee & Dronkers, 2011) (Tolsma et al., 2009), or the effect of economic heterogeneity on social cohesion (Lancee & Dronkers, 2011) (Tolsma et al., 2009). This thesis thus contributes to science by gaining new knowledge about the regional differences regarding social cohesion in the Netherlands, specifically at a municipal level.

4. Literature review

In this section, the literature that has already been written on the subject will be discussed. First, a closer look will be taken at the extensive theoretical works of four classical thinkers who first engaged with the terms of social cohesion and urbanization. These works will also serve as the theoretical framework of this research. Thereafter, the remaining literature of other thinkers and scholars will be discussed briefly, to give an all-encompassing view of the previous works regarding the subject.

4.1. Theory

The concept of social cohesion has been a subject of academic interest for long over a century. The question whether 'the glue that holds society together' (social cohesion) might erode as society progresses further into modernity, has been a classical concern within the social sciences (Larsen, 2014). According to Pahl (1991), the first thinker who intellectually engaged with the concept of social cohesion was the famous French

sociologist Émile Durkheim (1858-1917), one of the founding fathers of sociology. Durkheim described society as integrated system with collective norms, values and ways of living. Social cohesion is based on solidarity, cooperation and mutual actions (Schiefer & Van Der Noll, 2016). In his famous work '*De la Division du Travail Social*' (The Division of Labour in Society), Durkheim (1893) identified two kinds of solidarity in a society, namely 'mechanical solidarity' and 'organic solidarity'.

The former is described as a group of people (society) with a simple division of labor and similar norms and values. People act and think like each other and have shared the same beliefs and moralities. Durkheim called this the 'conscience collective' of a community. This is what maintains social order typically in traditional pre-modern societies.

The latter is categorized as a group of people in a modern capitalist society with a complex division of labor. The traditional kind solidarity and social similarity came to be under pressure from the forces of urbanization, modernization and industrialization around the turn of the twentieth century. People do not necessarily act and think alike each other and there are different groups of occupational activities, which are all reliant upon each other. In such a society solidarity is thus based on mutual economic interdependence instead of a shared conscience.

Durkheim used the term 'dynamic density' to explain this transition from mechanical solidarity to organic solidarity. Dynamic density is a combination of population density and how much social interaction occurs in that population (interaction density). Durkheim argued that both increases in population density and frequency of social interactions cause a society to slowly transform to a society with new social structures, norms and values.

Related to this dichotomy of mechanical and organic solidarity is the theoretical work of the German classical sociologist Ferdinand Tönnies (1855-1936). Just like Durkheim, Tönnies addressed the concern of increasing modernity and individualism with his own differentiation (Schiefer & Van Der Noll, 2016). In his seminal book '*Gemeinschaft und Gesellschaft*' (Community and Society), Tönnies distinguishes between two kinds of society.

His notion of 'community' is categorized as a group of people who are socially connected for the sake of the community, having personal relationships, sharing the same traditional values and beliefs and sharing a common goal (preservation of the community). This is like Durkheim's mechanical solidarity typical in a traditional, pre-modern society.

In sharp contrast to the community Tönnies opposes his notion of 'society', which is categorized as a group of people who are socially connected through the modern capitalist economy, having less personal and more instrumental relationships, sharing formal values (such as entrepreneurship and free markets) and which consists of more isolated individuals working towards individual goals. This kind of social fabric is more typical for highly industrialized and urbanized areas. The capitalistic nature of life in these urban areas degrades people's relationships with their direct environment and one another (Lawton, 2018).

Even more specific, are the works of German sociologist and philosopher George Simmel (1858-1918) and American urban sociologist Louis Wirth (1897-1952). Both were engaged with the same kind of concerns regarding social cohesion and community as Durkheim and Tönnies, but Simmel and Wirth differentiated more specifically between urban and rural areas.

Simmel, who was an acquaintance and colleague of Tönnies, analyzed metropolitan life in his complex and philosophical essay *'The Metropolis and Mental life'* (1903). In this essay he pays attention to both the social and psychological effects of living in a large city (metropolis). Life in the metropolis is fundamentally different from life in rural areas according to Simmel. He argues that rural life is characterized by a combination of meaningful relationships in a community, established over time. In large cities these kinds of relationships cannot be formed because of anonymity, fleeting social contact and an (over)abundance of different (social) stimulations. Simmel speaks of 'the intensification of nervous life', which refers to the fact that city dwellers are exposed to ever more, new and short internal and external 'impressions'. This distinctive psychological character of metropolitan life causes people living in cities to adopt a so-called 'blasé-attitude'. Blasé means bored or uninterested. In the context of Simmel, the blasé-attitude entails that people no longer act in accordance to their heart, but only in accordance to their head (intellectualism). As a consequence, all social contact is reduced to monetary and material terms. City dwellers can only establish relationships based on their interdependence for subsistence and so money and exchange become the medium of social relationships. In short, city life promotes individuality and has negative effects on personal mental health, social relationships and erodes the sense of community (Wolff, 1950). Shortly after his death, Simmel became a great inspirer for the famous *Chicago School* of urban sociology, of which Louis Wirth was a prominent member.

In his classic essay *'Urbanism as a Way of Life'*, Wirth (1938) describes the life in a city as "*Substitution of secondary for primary contacts, the weakening of bonds of kinship, the declining social significance of the family, the disappearance of neighbourhood and the undermining of traditional basis of social solidarity*". Like Simmel, Wirth saw urban and rural as constituting two distinct forms of life, as if they were at the opposite ends of a continuum. Urbanism, as he called it, is a form of human organization that is harmful to the social aspects of life and culture. He identifies three elements of structural urbanization; settlement size, settlement density and heterogeneity of the population, which according to him eroded the social/psychological connection to one's environment and therefore also the social cohesion.

In order not to give a wrong impression of the ideas of Simmel and Wirth, it is important to note that both were not thinking exclusively in a negative manner about cities and metropolitan life. Both thinkers could not deny that cities are on the other hand also the centers of individual freedom, toleration, invention, science and the home of progress. In Wirth's own words: "*the history of civilization can be written in terms of the history of*

cities" (Wirth, 1940). Yet, both thinkers remained on the position that the social implications of city life were largely negative.

Both the pre-modern/modern dichotomies of Durkheim and Tönnies, and the rural/urban dichotomies of Simmel and Wirth refer to the same distinction of social fabrics/orders. This is the differentiation between social fabrics in which the social cohesion, community sense, social solidarity or whatever term might be used, is strong or weak. All four theorists described above hypothesized to a greater or a lesser extent that the process of urbanization, to which modernization and industrialization are strongly related, altered the mode of social cohesion in a negative way (Buchecker & Frick, 2020).

This hypothesis, in which urbanization plays such an important role, raises the question of what exactly urbanization is. In concrete terms, urbanization is the increase of the share of people living in urban areas or cities (Bodo, 2019). This relative increase of people living in metropolitan areas results mainly from a mass migration from rural to urban areas. This is a global pattern that persists for well over a century now. Since 2007, for the first time in history, more than half of humanity lives in urban settings (UN, 2007) and still urban population is growing rapidly, especially in the Global South (although this categorisation of the Global South is heavily disputed in the academic world) (Bodo, 2019). In many parts of the world (especially Western countries) already extremely large shares of populations are urban. In 2023, there were 65 countries which had more than 80% of their population living in cities (*World Bank Open Data*, z.d.). A few examples from the World Bank Databank: Belgium (98,2%), Argentina (92,5%), The Netherlands (93,2%), Japan (92,0%), Finland (85,8%), Colombia (82,4%), Gabon (91,0%), Greece (80,7%) and United States (83,3%). These are quite impressive numbers considering that only about three percent of humanity lived in urban areas in the year 1800 (Clark, 1998).

However, urbanization entails more than just these increasing numbers of city dwellers. According to Chen et al. (2014) urbanization (along with industrialization and globalization) is one of the key themes that explains the transformations of human society since the Industrial Revolution. From the Industrial Revolution onwards, urban populations in especially the western countries exploded. By 1900, globally 20% of the world population lived in cities, and this number grew to 45% by the year 2000 (Ritchie et al., 2023). Along with this rapid and unprecedented growth from small, pre-industrial and rural to modern, industrial and urban areas came fundamental transformations in human organization or social structures. As people began to concentrate in cities, new divisions of labour emerged (as observed by Durkheim), rapid economic growth was fostered, industrialization and technological advancements increased, capitalism began to play a central role in human life (as observed by Marx) and new cultural (urban) patterns emerged (as observed by Simmel and Wirth) (T. N. Clark & Wu, 2021). All these transformations, which are inextricably connected with urbanization heavily impacted the individual and social lives of the city dwellers. Life in cities was organized and lived fundamentally different than in rural areas because of these social transformations.

At the time of this rapid urban growth, most thinkers who engaged with the subject of urbanization (including Durkheim, Tönnies, Simmel and Wirth) thought that urbanization was a general evolutionary result of social and economic developments within mainly rural societies. Especially the Industrial Revolution was seen as pivotal 'event' that sparked the growth of large cities. People began to move from rural to urban areas to work in newly sprung up factories, hoping that this new life would be better than their old agricultural ones. Also, agricultural surpluses and the application of efficient machine power played an important role in this development. Ever more efficient agriculture and transportation made it possible to grow more crops and transport these agricultural surpluses to urban areas. The people living in cities could therefore be sustained by agriculture elsewhere, while they were themselves engaged in non-agricultural activities (factory work for example). Non-agricultural activities create new jobs and a more specialized labour force, which again promotes urban concentration (Harvey, 1974). In addition, the rise of national governments made possible the creation of socially viable communities (cities) that could host large amount of people (Lampard, 1965).

It is against this backdrop of extreme and unprecedented urban growth that the theorists Durkheim, Tönnies, Simmel and Wirth formulated their ideas on the relation between urbanization and social cohesion. All the four thinkers saw the emerging pattern of urbanization and all the social transformations that came along with it, and got concerned with the social implications of these rapid changes. These thinkers more or less hypothesized that urbanization negatively influences social cohesion (sometimes defined as community attachment or social solidarity).

In the literature, this grand hypothesis is referred to as the linear development model, because it assumes that linear increases in population size and population density of a community causes linear reduction in social cohesion. It is precisely these grand and prophetic insights that will be used as the theoretical framework for this research project. There are two main reasons for the use of this particular theoretical framework.

First, this research aims to investigate the regional differences in social cohesion in the Netherlands. There is a spatial aspect in this research objective, namely the regional disparities. Because of this, it is necessary to use a framework which allows to differentiate between different regional characteristics. This framework does indeed allow to distinguish between regions that are highly urban, highly rural and every stage of urbanization in between those two ends. Therefore, the spatial aspect is incorporated into the research through the degree of urbanization in the different regions.

Second, this linear development model has received a considerable amount of empirical support over the years (Buchecker & Frick, 2020) (Wilson & Baldassare, 1996) (Wasserman, 1982) (Buttel et al., 1979) (Fischer, 1973) (Errazuriz-Quesney, 1990), even in the now rapidly urbanizing context Africa (Sakketa, 2024). Because of this empirical support, it is assumed that this model has a reasonable chance of explaining the regional differences in social cohesion in this thesis. Unfortunately, much of this research was conducted in the United States and is not recent. Therefore, it would be interesting to see

whether this model still holds up empirically in a new geographical context (the Netherlands) and a different time.

In addition to the effect of urbanization on social cohesion, three potentially significant additional variables will also be taken into account in this research. These variables are ethnic variation, economic inequality and education level. The reason that these variables are included is the fact that all these variables have time after time been linked to social cohesion in the scientific literature (Moustakas, 2023).

Much research has suggested that ethnic diversity negatively influences social cohesion (H. Schmeets & Riele, 2013) (Putnam, 2007) (Lancee & Dronkers, 2011) (Koopmans & Veit, 2014) (Alesina & La Ferrara, 2002). However, it must be said that this effect has not always been found (Tolsma et al., 2009), and sometimes even the opposite effect was found (Sturgis et al., 2014). Still, because of the hypotheses of Wirth and the larger amount of empirical evidence for a negative effect, it is in this thesis assumed that ethnic variation negatively influences social cohesion. For economic (income) inequality, a large body of empirical work supports a negative effect on social cohesion by this variable (Coburn, 2004) (Coburn, 2000) (Iammarino et al., 2018) (Manstead, 2018) (Musterd et al., 2016). Education level, on the other hand is thought to be positively correlated with social cohesion in the literature (Kapoor et al., 2017) (Gradstein & Justman, 2000) (H. Schmeets & Riele, 2013). These three variables will be included in the research because all three variables are also well known to be positively associated with a high degree of urbanization. The statistical analysis is expected to confirm this.

4.2. Remaining literature

To give a complete account of the literature about social cohesion over the years, a few other major schools of thought will be discussed here. For example, the works of the American urban sociologists Robert E. Park and Ernest W. Burgess. Both resisted the negative views on urbanization of the above-described thinkers and instead emphasized that the socialization processes which form social networks in local communities continue over time, irrespective of the characteristics of the place (Park & Burgess, 1921). Park and Burgess thought that, rather than the structural aspects of urbanization, it is the resident's length of stay, position in the social fabric and the resident's age that are the most important factors which determine the strength of social cohesion in a place (Goudy, 1982). In the literature, these hypotheses are referred to as the systemic model of community attachment. A limited amount of empirical support has over time been found for this model (Goudy, 1982) (Kasarda & Janowitz, 1974).

Heavily influenced by Durkheim, Talcott Parsons (1971) developed his own functionalistic approach. In this approach he stressed the importance of a set of ultimate values, described as shared visions on the desirable state of affairs, which would be necessary for a society to keep all her different parts integrated. Common values, internalized during a

process of socialization, are most important for holding the societal community together (Dragolov et al., 2016).

David Lockwood also received quite some academic attention for his distinction between social integration and system integration. The former refers to the relationships between individuals and groups of people and the underlying principles. The latter refers to the relationships between the functional parts (institutions) of a society. According to Lockwood (1999) social cohesion, described as the strength of networks, is strong when people with different beliefs, values, lifestyles and socio-economic resources live together in peace and have equal access to public services.

The role of social networks in social cohesion is also emphasised by the social capital approach (Schiefer & Van Der Noll, 2016), of which Pierre Bourdieu and Robert Putnam are both proponents. In this school of thought the distinction between the terms social capital and social cohesion gets blurred. However, the exact definitions remain separated, they only refer partly to the same phenomena.

According to Bourdieu (1986, p. 249) social capital is the “aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition.” This social capital then facilitates (reciprocal) relationships, individual and collective action, trust and social norms within networks. In his book *Bowling Alone*, Putnam (2000) describes social capital as a collective value of social networks and the extent to which people want to do something for each other in these networks. As social capital increases, so do the problem-solving capabilities of a society (Dragolov et al., 2016). Putnam also finds empirical evidence that ethnic diversity negatively influences social solidarity in the United States (Putnam, 2007).

5. Conceptualization and Operationalization

In this section the conceptual model will be discussed as well as the exact definitions of all variables included in the analysis. Also, the way in which these variables are measured will be discussed.

The three additional variables (ethnic variation, economic inequality and education level), the newly tested variable (excessive alcohol use), as well as the independent (urbanization) and dependent (social cohesion) variable are assimilated in the conceptual model for this research. Finally, the conceptual model that will be used looks as follows:

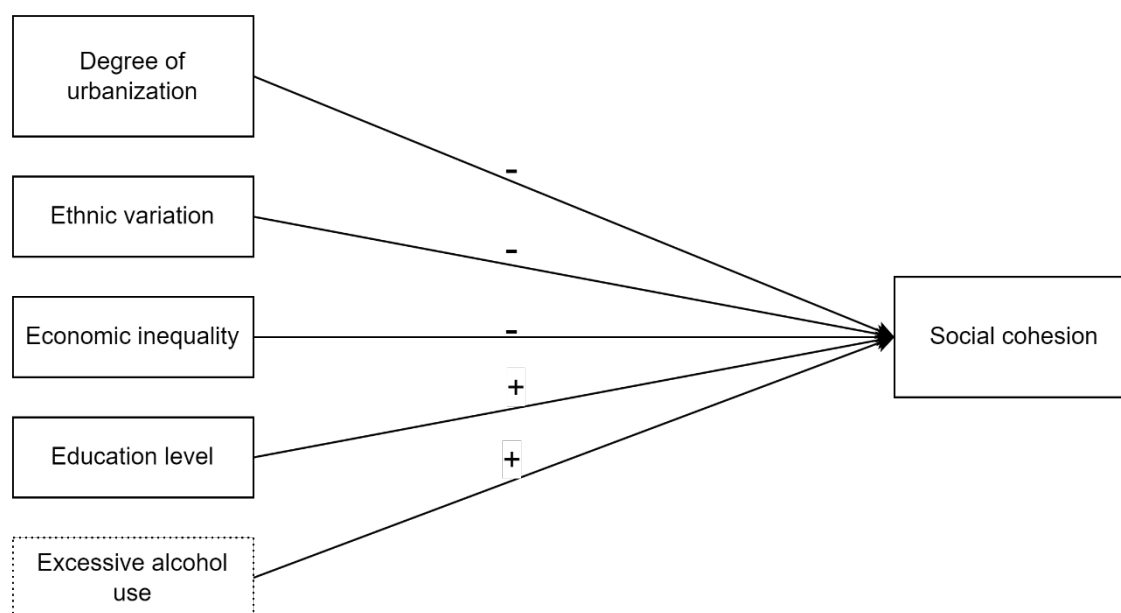


Figure 1: conceptual model

First, there is the dependent variable; social cohesion, the concept which this thesis is centred around. As has probably become clear to the reader now, social cohesion is a very broad, large and even vague social construct. The concerning literature is repeatedly criticized by itself and the scientific community for a lack of consensus regarding the conceptualization of the concept (Schiefer & Van Der Noll, 2016). At first, it was planned to use a conceptualization for this thesis that is derived from two influential literature reviews on social cohesion, namely Schiefer and Van Der Noll (2016) and Chan et al. (2006). Both identify three core dimensions of the concept, that are most prominently present in all the literature they analyzed. These three dimensions that they identified are more or less the same.

According to Schiefer and Van Der Noll (2016) the essential features of social cohesion are “(1) the quality of social relations (including social networks, trust, acceptance of diversity, and participation), (2) identification with the social entity, and (3) orientation towards the common good (sense of responsibility, solidarity, compliance to social order).”

According to Chan et al. (2006) social cohesion is strong when “(1) they can trust, help and cooperate with their fellow members of society; (2) they share a common identity or a sense of belonging to their society; (3) the subjective feelings in (1) and (2) are manifested in objective behaviour.”

However, the exact conceptualization of social cohesion that is actually used for this research differs a bit from the conceptualization described above. Because of the limited availability of data regarding social cohesion, the conceptualization of the construct had to be tweaked a bit to fit the available data, instead of vice versa. The data, from which the conceptualization is derived, was received from the Dutch research institute Bureau Louter. Bureau Louter measured the social cohesion in each Dutch municipality between 2006 and 2021, using data from the Netherlands Statistics (CBS) survey ‘WoonOnderzoek Nederland’ (HousingResearch Netherlands). More about the exact details of the data will

be explained in the methodology section.

Seven indicators were extracted from this CBS survey by Bureau Louter to measure the construct of social cohesion. These seven indicators are as follows:

1. The extent to which people treat each other in a pleasant manner.
2. The amount of social contact people have with their direct neighbours.
3. The amount of social contact people have with other residents in the neighbourhood.
4. The extent to which people find themselves to be living in a sociable neighbourhood where people help each other and undertake things collectively.
5. The extent to which people feel responsible for the liveability in the neighbourhood.
6. The extent to which people know each other well in the neighbourhood.
7. The extent to which people are satisfied with the population composition in the neighbourhood.

These are the seven indicators into which social cohesion is operationalized. When looking at the three core dimensions of the construct identified by Schiefer and Van Der Noll (2016) and Chan et al. (2006), the seven indicators can roughly be divided into two of these dimensions. Indicators 1, 2, 3, 4, 6 and 7 can be put under core dimension 1: the quality of social relations. Indicators 4 and 5 can be put under core dimension 2: orientation towards the common good. For the second core dimension, identification with the social entity, there are unfortunately no sufficiently fitting indicators in the data. Also, the indicators are not equally distributed along the dimensions of the construct. So, as mentioned before, the data does not exactly fit the conceptualizations of Schiefer and Van Der Noll (2016) and Chan et al. (2006), but in the researcher's opinion it still is a good measure of the concept of social cohesion. Also theoretically, this is not a problem, since all indicators still constitute the kind of social fabric that is described to be negatively influenced by urbanization in the theoretical framework.

As mentioned before, this dependent variable of social cohesion is the most important variable in this research. The influences of the five independent variables on social cohesion will be investigated. This way, the theories of Tönnies, Simmel and Wirth are tested against empirical reality.

Secondly, there is the independent variable; the degree of urbanization, which needs further specification. In all the previous research mentioned above the degree of urbanization is measured, much in line with the hypotheses of Wirth, as the population size of the aggregate, the population density or both. For this thesis, only the population density is used to measure the degree of urbanization. The reason that the population size of the aggregate cannot be used, is due to the fact that this analysis is done on a municipal scale. Therefore, only municipalities can be compared to each other. Many rural municipalities, for example Bronckhorst, De Friese Meren or Het Hogeland, are very large in surface and compiling of many small villages. The total population sizes of these

municipalities are quite large, even though these municipalities are not urban at all. Using the population size of these municipalities would therefore be no good measure of urbanization. The degree of urbanization is thus operationalized only as population density per municipality.

This variable is used to test the main relationship between urbanization and social cohesion that is described in the theoretical framework. Building on previous academic literature and these theories of Tönnies, Simmel and Wirth, it is assumed that this variable negatively influences that dependent variable social cohesion.

The third variable is ethnic variation. Previous research mostly measured this as the percentage of ethnic minorities or immigrants in a municipality, which of course partly overlap. For this particular research, the ethnic variation is measured by comparing the shares in the total population of the following seven ethnic groups: native Dutch people, people with a western migration background, Moroccans, Antilleans, Surinamese, Turks and remaining people with non-western migration backgrounds. Each of these seven groups' share in the total population can be seen as an item that accounts for ethnic variation. Based on Wirth's hypothesis that heterogeneity of population erodes social cohesion and the influential empirical work of Putnam (2007) that supports this hypothesis, it is assumed that this variable also negatively affects social cohesion.

As the fourth variable we have economic inequality. Durkheim described that increasing differentiation in the labour market and wealth, is a threat for the 'conscience collective' of a community. As mentioned before, regarding increasing wealth inequality Durkheim's prognosis has been empirically confirmed in the scientific literature. Hence, economic inequality is assumed to have a negative effect on social cohesion. This could, according to the literature mentioned above, best be measured as the average household or per capita income inequality, or also as economic capital inequality. Again, due to limited availability of data about economic inequality on a municipal scale, there was no choice but to only use household economic capital inequality.

The fifth variable is education level, which is measured as the percentage of people in the municipality that is highly educated. This variable has no specific relation to the theoretical framework. Still, it is included in the analysis because the literature suggests that highly educated people score higher on social cohesion scales than lowly educated people on the individual level. It would be interesting to see whether this relationship still holds up on the municipal level. In other words: Is social cohesion higher in municipalities with a relatively large share of highly educated people?

The sixth and final variable is excessive alcohol use. This variable has no relation to the above described theoretical framework and has also almost never been tested before in this specific context. Still, there has been some research on the relationship between social cohesion and alcohol use. Zhou et al. (2013) for example investigated the influences of happiness, identity and social cohesion within sport teams on alcohol consumption.

Team social cohesion is positively correlated with the amount of alcohol use in this research. Another research among students on Brazilian high schools found that students who experienced high levels of social cohesion in their community were 3,4 times more likely to binge drink themselves (Martins et al., 2017). A Dutch study on the neighbourhood scale showed that there is a moderate positive correlation between social cohesion and hazardous alcohol use for males only (Kuipers et al., 2012). A different study on the relation between neighbourhood social cohesion and substance use showed opposite results: high social cohesion significantly reduces adolescent alcohol use (Pei et al., 2020). A study in Switzerland found a similar effect, but this effect was mediated by depression. High levels of social cohesion indirectly appeared to protect men between age 21-25 from hazardous alcohol use through the variable of depression (Tsai et al., 2020).

The literature on social cohesion in relation to alcohol use remains meagre and contradictory. Despite the lack of empirical and theoretical argumentation, this variable will be included. There are two reasons for this:

Being generally interested in spatial patterns of social cohesion and substance use in the Netherlands it occurred to me, the researcher, that Dutch regions which show high levels of social cohesion also show high levels of excessive alcohol use. These potentially overlapping patterns can be observed when comparing the regional social cohesion data used in this study with regional alcohol use data from RIVM (National Institute for Public Health and the Environment). I noticed that many heavily drinking municipalities (especially in the regions Achterhoek, Twente and the Wadden Islands) are also municipalities that display high social cohesion. This could of course be simple coincidence, or not. Therefore, it is tested statistically in the analysis.

The second reason for including this variable is a kind of 'research intuition' which tells me that the relationship between social cohesion and excessive alcohol use could be significant and important one. Being born and raised in the eastern Oost Gelre municipality, which according to the data is both a high social cohesion and heavily drinking municipality, I have personally observed throughout the years how alcohol use and social cohesion could be connected to each other. From personal experience it occurred to me that people around me like to regularly come together at bars, restaurants or events and binge drink themselves. This excessive alcohol use is not being viewed as something bad though, it is accepted and in some cases even supported. I also noticed that almost all local events and activities that are organized in my region (there are many) play an important role in fostering local social cohesion. At the same time I noticed that it is at these events and activities that binge drinking/excessive alcohol use (especially beer) is completely normalized and accepted. Which exact social mechanisms are at work here, I cannot say. However, for this research I paradoxically hypothesize that excessive alcohol use can have a positive (direct or indirect) effect on social cohesion in certain regions. This variable is measured as the percentage of people that drinks excessively per municipality.

At last two variables will be included for which the dependent variables are controlled. These are aging and income. The idea to control for aging emerged from the results of the first interview, since this respondent emphasized that social cohesion in his neighbourhood was especially high among older people. Aging will be measured as the percentage of people in each municipality that is 65 years or older.

Income is included as control variable because it is a common control variable. Many previous studies regarding the subject of social cohesion also controlled for income. Income will be measured as the average standardised household income per municipality. The standardised income is the disposable income corrected for differences in size and composition of the households.

Exact details about how each of the variables are measured, calculated and used in the analysis will be explained in the methodology section.

6. Research questions and hypotheses

In this section a closer look is taken at the main research question, the sub questions and the hypotheses that will be tested.

As mentioned in the introduction, the objective of this research project is to gain insights into regional differences of social cohesion in the Netherlands, by mapping out social cohesion across Dutch municipalities and identifying underlying causes of these regional differences. The central research question that is derived from this research objective goes as follows:

1. To what extent do Dutch regions differ in their scores on social cohesion?

To answer this central research questions, four sub-questions are used which are as follows:

1. What can the degree of urbanization bring to explaining the differences in levels of social cohesion in each Dutch municipality?
2. What do the different scores on ethnic variation, economic inequality and education level in each Dutch municipality bring to answering the main research question?
3. What can excessive alcohol use bring to explaining the regional patterns of social cohesion in The Netherlands?
4. How do residents of the regions Achterhoek and Twente experience local social cohesion in their community?

By answering all these research questions, the research objective can be achieved and a conclusion can be formed.

As probably already has become clear to the reader now, a deductive research approach will be used for this thesis. Deductive reasoning aims at using an existing theory, which

will be tested against empirical reality. To test the particular theory, clear and falsifiable hypotheses must be derived from the theory. When the hypotheses are confirmed, the theory appears to be a correct reflection of the phenomena that were observed (empirical reality). When the hypotheses are rejected, the theory is not a correct reflection of the phenomena that were observed. For this research, one main hypothesis and four additional hypotheses are formulated:

H1 (main hypothesis): Dutch municipalities with lower levels of urbanization show higher levels of social cohesion.

H2: Dutch municipalities with lower levels of ethnic variation show higher levels of social cohesion.

H3: Dutch municipalities with lower levels of economic inequality show higher levels of social cohesion.

H4: Dutch municipalities with larger shares of highly educated people show higher levels of social cohesion.

H5: Dutch municipalities with larger shares of excessive alcohol users show higher levels of social cohesion.

7. Methodology

As mentioned in the introduction, this research is done using both quantitative and qualitative methods. In academia this is referred to as mixed methods. The quantitative methods (statistics) constitute the largest part of the research and will be used to gain a general picture of social cohesion in the Netherlands as a whole. Then, qualitative methods will be used to further investigate the eastern regions of Achterhoek and Twente in a case study. Both methods will be discussed in this section. The first subsection will explain the quantitative part of the research methods and the last subsection will take care of the qualitative part.

7.1. Quantitative research methods

The methods that are used to reject or confirm the hypotheses will be quantitative and a statistical analysis is done on a municipal scale. For every municipality, the values of each of the variables have been compiled. The values are calculated using publicly accessible as well as non-publicly accessible quantitative data. The sources of these data are the following three research institutes: Bureau Louter, Netherlands Statistics (CBS) and the National Institute for Public Health and the Environment (RIVM).

The first reason for the use of already existing statistical data is the fact that it would be impossible for the researcher to empirically measure all the concepts in every Dutch municipality himself. The concepts themselves, especially social cohesion, are not directly

observable (latent constructs). Some variables, constitute several dimensions, which in their place constitute several items. These must then be put together to create a value on the concerning variable. Also, the Netherlands had 342 municipalities in 2023, meaning that every variable must be measured 342 times, every time in a different municipality. It would simply take too much time and effort to do the empirical observations in person, using for example surveys. Therefore, already existing statistical data is used. This allows the researcher to directly access the necessary items constituting the concerning variables.

The second reason is that this quantitative part of the research does not aim at creating specific, in-depth knowledge regarding social cohesion in a certain place. Such a research objective would require a qualitative approach, as will be done in the case study. Instead, this part aims at creating a general picture of the social cohesion and her correlates in the whole of the Netherlands. Verschuren and Doorewaard (2010) speak of research aiming for breath (generalising) or depth (specifying). In this particular case, the breath of this part of the research is more important than the depth.

7.1.1. Study area and scale

In line with this large-scale approach is the fact that the study area entails the whole of the Netherlands, and not just a few cities or areas. To compare all Dutch regions to each other, data on a municipal scale is used. This scale is being used because it allows to differentiate between municipalities regarding their level of urbanization. If the scale being used was one step smaller, this would be at the level of neighbourhoods. Dutch research institutes have no scale in between neighbourhoods and municipalities. The level of neighbourhoods would be too small, because the Netherlands has tens of thousands of neighbourhoods. All these neighbourhoods should then be compared, meaning that for every one of these thousands of neighbourhoods all the variables must be compiled. This is simply too much work for this thesis. There is also less data available on this scale. If the scale being used was one step larger, this would be provincial. This scale reduces to much information, generalising all regional details to the level of provinces. Differentiating on the degree of urbanization would for example be impossible.

However this choice still comes with an important disadvantage. That is the reduction of specific information within municipalities. This is especially the case for municipalities that are large in surface, and that have cities as well as rural areas within them. Because of the usage of this scale, it was impossible to compare different places within these municipalities. This detriment means that the final conclusions are generalised conclusions, where some biases might have sneaked in.

Another important thing to note is the fact that the Dutch municipalities have been merging ceaselessly for over a hundred years. In the year 1900 the Netherlands contained more than 1100 municipalities. By the 1st of January 2023, this number has been reduced to 342. This means that when comparing different municipalities over a timespan of several years, municipal reorganizations are to be taken into account carefully. To make a

statistical analysis possible, the municipal division of one particular year has been chosen as the starting point to which all data for every year has been fitted. In this case, the municipal division of 2023 has been chosen, because the social cohesion data that has been received from Bureau Louter was also available in the municipal division of this year. All other data from years earlier than 2023 thus had to be corrected to the municipal division of 2023.

Next, all the details about the exact measures, data and statistical methods will be explained.

7.1.2. Measures and data

The first and foremost variable that has been measured is social cohesion. As mentioned before, the data for this variable has been received from Dutch research institute Bureau Louter, which is normally concerned with research into spatial/economic developments in the Netherlands in a broad sense. On the 28th of July 2023 the yearly article about Bureau Louter's research into housing attractiveness appeared in Elsevier Weekblad (EWmagazine). For this particular year, social cohesion across the Dutch municipalities had been selected as a 'special topic'. Since this publication had been one of the causes that sparked interest for this bachelor thesis, Bureau Louter was contacted by phone with the question whether their data on social cohesion could be used as a dependent variable for this research. Bureau Louter did not want to share the raw data that they used, which is understandable. They were instead willing to share an adapted form of the data. The data contained seven indicators of social cohesion and a total score which was calculated from these seven indicators. However, this data was only shared on certain conditions. These conditions included that this data would never be publicly available in a Radboud University data base, that the data would not be directly visible in the thesis itself (only results of analyses are allowed to be visible), that only the researcher (Vince Brummelaar) and his supervisor (Paschalina Garidou) would be able to access the data and that we would both never use the data for any other purposes than this research or distribute it. This non-further usage and distribution of the data had been signed by the researcher and his supervisor in a declaration, which was then sent to Bureau Louter. Both parties came to an agreement, so the data had been sent by email to the researcher without further difficulties. The exact details about the researcher's correspondence with Bureau Louter and the declaration of the non-further usage and distribution of the data have been included in the appendix.

As mentioned before, the raw data Bureau Louter used for their research is the CBS survey 'WoonOnderzoek Nederland' (HousingResearch Netherlands), sometimes also referred to as the CBS WoON-enquête. This survey is carried out every three years across the whole Dutch population of 18 years and older, with the main purpose of getting insights in the housing circumstance of the Dutch population. The survey is done by using a stratified sample, covering every municipality in the country. Every edition, at least 60.000 people participate in the survey. Because this survey is a sample survey, all values

are estimates of the real values in the population and therefore provided with a 95% confidence interval (Centraal Bureau voor de Statistiek, z.d.).

From this survey Bureau Louter extracted seven indicators or items that explain social cohesion. These indicators are all survey questions in which respondents were confronted with a statement. They could answer by pointing out the extent to which they agree to the concerning statement. The seven statements are the following:

1. BRTPRET -> In my neighbourhood people treat each other in a pleasant manner.
2. CONBUUR1 -> I have much social contact with my direct neighbours.
3. CONBUUR2 -> I have much social contact with other residents in the neighbourhood.
4. GEZELBUURT -> I live in a sociable neighbourhood where people help each other and undertake things collectively.
5. LEEFBARH -> I feel myself to be responsible for the liveability in the neighbourhood.
6. MENSKEN -> People barely know each other in this neighbourhood.
7. TBEVSAMS -> I am satisfied with the population composition in the neighbourhood.

All of these seven questions could be answered using a 5-item Likert scale. So, the respondents could choose from one out of five categories the answer that fitted their opinion the best. The five possible answers were: 1. I completely agree, 2. I agree, 3. I neither agree nor disagree, 4. I do not agree and 5. I completely do not agree.

To each of these answer categories points were distributed, so that the answers could be quantified. The Likert scale was rescaled as follows:

- | | |
|------------------------------------|----------|
| 1. I completely agree -> | 4 points |
| 2. I agree -> | 3 points |
| 3. I neither agree nor disagree -> | 2 points |
| 4. I do not agree -> | 1 point |
| 5. I completely do not agree -> | 0 points |

The maximum score is thus 4 points and the minimum score 0 points. For the sixth question/statement the points distribution was of course reversed, because this statement is conversely presented compared to the other six questions.

For every municipality the average score was thus calculated for each of the seven questions. Bureau Louter did this for six particular benchmark moments of the CBS 'WoonOnderzoek Nederland' survey: 2006, 2009, 2012, 2016, 2018 and 2021.

Subsequently, the average of these six benchmark moments was calculated for each indicator in each municipality. From these values the total score for each municipality was calculated by taking the unweighted average of the seven indicators. This then results in a total score of social cohesion over the period from 2006 to 2021 for all 342 Dutch municipalities. All scores are corrected for the municipal reorganizations from 2006

onwards and these are corrected to fit the municipal division of 2023.

One important thing to note however is that the CBS survey measures social cohesion on the neighbourhood level, and not on the municipal level. So, to clarify, the variable of social cohesion is conceptualized and measured on a neighbourhood scale, while the analysis is done on a municipal scale. This fits the theoretical framework very well.

Tönnies, Simmel and Wirth describe how the sense of local community erodes under the pressure of urbanization. In the words of Wirth (1938): “... *the disappearance of neighbourhood and the undermining of traditional basis of social solidarity*”. If social cohesion were measured on a municipal scale, it would miss the point of the declining sense of local social solidarity.

To confirm that these seven indicators indeed measure the same latent variable of social cohesion, a factor analysis and an internal reliability test was run through SPSS. As expected, only one component was extracted in the factor analysis. This component had an Eigenvalue of 5,668 and explained 80,977% of the variance. Also, the sampling adequacy was high; KMO = ,907. According to Kaiser & Rice (1974) KMO values above ,90 are ‘marvellous’. The factor loadings on the component for the seven items are respectively ,937; ,890; ,934; ,938; ,793; ,942 and ,854. All factor loadings are well above the threshold of 0,3 (Field, 2018). The internal reliability test revealed the Cronbach’s Alpha to be ,940. Again, well above the threshold of ,7 for α . The SPSS outputs are included in the appendix.

The outcomes of these test indeed confirm, as expected, that all seven indicators measure the same construct: social cohesion. Therefore, the researcher can be sure that the internal validity of this variable is good and meaningful statements about social cohesion can be made. Below, a table containing the descriptive statistics of the seven indicators and the total score of social cohesion is shown.

| N = 342 | Mean | Standard deviation | Cronbach’s Alpha (α) |
|-------------------------------|-------|--------------------|-------------------------------|
| BRTPRET | 2,956 | 0,099 | |
| CONBUUR1 | 2,459 | 0,118 | |
| CONBUUR2 | 2,199 | 0,148 | |
| GEZELBUURT | 2,457 | 0,170 | |
| LEEFBARH | 2,745 | 0,085 | |
| MENSKEN | 2,640 | 0,234 | |
| TBEVSAMS | 2,872 | 0,090 | |
| Social Cohesion (total score) | 2,618 | 0,123 | 0,940 |

Table 1: descriptive statistics of seven indicators and total score of social cohesion

The second variable to be measured is urbanization. As described in the conceptualization and operationalization section, this is measured as the population density per municipality: the amount of people per square kilometre. The numbers were downloaded from the CBS Open data Statline website, which contains many data bases. For this variable the data base ‘Regionale kerncijfers Nederland’ was used. A table was downloaded, which contained the population densities for each Dutch municipality in the years 2006 and 2021 (the same timespan as the social cohesion data). As mentioned before, Dutch municipalities have been ceaselessly merging for as long as imaginable. In 2006 the Netherlands had 458 municipalities, and in 2021 this number was 352. So, for both 2006 and 2021 the values had to be corrected to the municipal division of 2023. The correction for municipal reorganizations has been done, on the advice of Bureau Louter, by using the weighted average by population size. So, when a (population wise) large and dense urban municipality is merged with a small rural municipality, the large and dense municipality weights in accordance to its population size more heavily than the small rural one. This way population density in the newly created municipality is not distorted by the low population density of the added old rural municipality.

This process of calculating the weighted average is a very tedious and time-consuming job. Therefore, the researcher decided to pick only two years (2006 and 2021, because this is the same timespan as the social cohesion data) to calculate the average population density between 2006 and 2021, instead of the six benchmark moment years of the social cohesion data. Doing this, it is assumed that the final average values of population density between 2006 and 2021 for each municipality do not deviate remarkably from the values in a situation in which all six benchmark years were taken into account.

The next variable is the ethnic variation per municipality. Again, data from the ‘Regionale kerncijfers Nederland’ database of the CBS Open data Statline website has been used. The values of the shares in the total population of the following seven ethnic groups have been downloaded: native Dutch people, people with a western migration background, Moroccans, Antilleans, Surinamese, Turks and remaining people with non-western migration backgrounds. To transform all these shares into one number which tells something about the extent of ethnic variation, a Herfindahl Index has been calculated for each municipality. This method has been used before by other researchers in the Dutch context (Lancee & Dronkers, 2011), and it showed to be a good measure of ethnic variation.

This index is calculated as follows:

$$I = \sum_{i=1}^n M_i^2$$

For this particular case M_i refers to relative shares of the ethnic groups and n refers to the amount of different ethnic groups.

The Herfindahl Index ranges between 1 and (infinitely close to) 0. *I*, the value of the index itself, should be interpreted as follows: the closer to 1 the value is, the less the ethnic variation is. So, municipalities with a high level of ethnic variation score low on this Herfindahl Index. The interpretation of this index is a bit counterintuitive, but this should be no problem as long as the researcher keeps this in mind.

Just as with the previous variables, all values had to be corrected to the municipal division of 2023. Therefore, again only the years 2006 and 2021 have been used to calculate the average ethnic variation Herfindahl Index between 2006 and 2021 for each municipality.

The fourth variable is the economic inequality per municipality. For this variable, the average financial capital for households in the 1st, 2nd, 3rd, 4th and 5th 20%-groups (quintiles) were downloaded from the 'Vermogen van huishoudens; huishoudenskenmerken, regio (indeling 2023)' database. Financial capital is exactly defined by the CBS as the balance of financial possessions and debts. Financial possessions includes: bank and saving deposits, stocks/funds, the house, other property, entrepreneurial assets, substantial interests and remaining possessions. Debts includes: debts regarding the house and consumptive credits.

Unfortunately, no direct regional statistics about economic inequality (such as for example the Gini-coefficient) were available. Also, no regional data about the income distribution across the five quintiles could be attained. Therefore, there was no other choice but to use household financial capital inequality. This is a bit unfortunate, since previous research on the relation between economic inequality and social cohesion primarily used income inequality (mostly the Gini-coefficient of disposable income) as an indicator for economic inequality (Coburn, 2004) (Coburn, 2000) (Vergolini, 2011) (Alesina & La Ferrara, 2002) (Fairbrother & Martin, 2013). The relation between exclusively financial capital inequality and social cohesion has until now thus scarcely been tested before. This makes the relation between these two variables on the other hand still interesting to test. Using the household average financial capital quintiles, the S80/S20 ratio was calculated for each municipality. This is an inequality indicator which is often used in economics, which compares the top 20% of the population with the bottom 20% of the population. The higher the value of the ratio is, the higher the inequality is. For this research, the household average financial capital of the highest quintile was divided by the household average financial capital of second lowest quintile. The reason to choose for the second lowest quintile was due to the fact that the values for the lowest quintiles were all negative, because of debts. These negative values cannot be used for the S80/S20 ratio. These negative values are also the reason why no Gini-coefficient was calculated for the household average financial capital inequality. Solutions to overcome this problem of negative values are mathematically extremely complicated (Raffinetti et al., 2014). Understanding and applying these mathematics is not feasible for this thesis.

Just as for the previous variables, the numbers for the years 2006 and 2021 were taken. The average of these two years were again assumed to be representative for the period of 2006 to 2021. This time no correction had to be made for municipal reorganizations

because the data was already available in the municipal division of 2023. Unfortunately, for three municipalities the values of this variable were missing. For the municipalities Rozendaal, Schiermonnikoog and Vlieland no S80/S20 ratio could be calculated.

The fifth variable is education level. This is measured as the percentage of people between 15 and 75 years old that is highly educated per municipality. In the definition of the CBS, people with high education are people who finished a HBO or WO bachelor's degree, HBO or WO master's degree or PhD. High education has been measured before this way in the Dutch context regarding social cohesion, but on a neighbourhood scale and as a control variable (Lancee & Dronkers, 2011). Unfortunately, only data was available for the period between 2013 and 2022, so the values for the years 2013 and 2021 were downloaded. Again, the average was calculated between these two years and it is assumed that this data from 2013 to 2021 is representative (enough) for the period 2006 to 2021.

The sixth variable, excessive alcohol use, is measured as the percentage of people between ages 18 and 65 who drink excessively. Excessive drinking is defined by Dutch research institutes as drinking more than 21 glasses of alcoholic drinks per week for men and drinking more than 14 glasses of alcoholic drinks per week for women. The data was downloaded from the database 'Gezondheid per wijk en buurt; 2012/2016/2020/2022 (indeling 2022)' from the RIVM Open data Statline. The database contains information gathered by the so called 'Gezondheidmonitors', which are surveys executed normally once every four years collectively by CBS, RIVM and the GGDs. Only data between 2012 and 2022 was available. Therefore, the average percentage of excessive alcohol users of the years 2012 and 2022 was calculated and assumed to be representative.

For both control variables, aging and income, the data has also been extracted from CBS databases. For aging the numbers of the percentages of people that are 65 years old or older per municipality have been used. These numbers were downloaded from the 'Bevolking op 1 januari en gemiddeld; geslacht, leeftijd en regio' database. Again, the average between 2006 and 2021 was calculated.

For income, the average standardized household income x1000 per municipality was downloaded from the 'Inkomen van huishoudens; huishoudenskenmerken, regio (indeling 2023)' database. Only numbers for the years between 2011 and 2022 were available, so the average between 2011 and 2022 was calculated and assumed to be representative for the period from 2006 to 2021.

7.1.3. Statistical Analysis

For the analysis the statistical software program IBM SPSS Statistics is used. The use of this software program was chosen because SPSS is well known to be excellent software to support research, test theories and study complex data relationships. In addition to that,

the researcher is most familiar with this statistical program, and therefore it was obvious to make use of it.

To analyse the data, hierarchical multiple linear regression analysis is performed. This is a statistical method to analyse the relationship between a single dependent variable (in this case social cohesion) and a number of independent variables. These independent variables are then entered in a certain order, individually or in blocks. The order in which these variables are added is based on past research and literature. Generally, predictors should be entered in the model based on their importance and known predictors (from past empirical works) should always be entered first (Field, 2018).

There are a number of reasons to choose for this method of analysis. The first and foremost reason is the fact that using a multiple regression, a number of independent variables can be assimilated in the analysis at once. This way, not only the simple relationships between the dependent and each independent variable can be looked upon, but also how these relationships are influenced by other independent variables. In line with this argument, using multiple regression means that controlling for certain variables is possible. This allows the researcher to see whether certain relationships are not spurious.

Secondly, this method is used because a regression analysis investigates whether there is a linear relationship between an independent variable and one or more dependent variables. For this research, it is hypothesized that there is a linear relationship between social cohesion and population density. As mentioned before, the grand hypothesis of Tönnies, Simmel and Wirth roughly entails that urbanization negatively influences social cohesion / community sense / social solidarity. This hypothesis is referred to in the literature as the linear development model, because it assumes that a linear increase in population density and size causes a linear decline in social cohesion. Therefore, using (hierarchical multiple) linear regression perfectly fits the main hypothesis.

Thirdly, all quantitative data is on the scale measurement level. When both the dependent and the independent variables are on the scale measurement level, multiple regression is for most research the basic and commonly used method of analysis. Also, for this research regression fits well the purpose of testing the hypotheses.

7.2. Qualitative research methods

In the qualitative part of the research, the eastern Dutch regions Achterhoek and Twente are examined closely in a case study. There are three reasons for the choice of these two regions.

Firstly, because of the results of the quantitative analysis. Achterhoek and Twente (as well as the Wadden Islands) turn out to be high social cohesion regions in comparison to the rest of the Netherlands. Therefore, it would be interesting to further analyse the social cohesion in these specific regions.

The second reason is simply because of the fact that the researcher is born and raised in

Achterhoek, near the border with Twente. Personally experiencing and observing the social cohesion in my social community causes me to be very interested in this subject. Thirdly, the regions Achterhoek and Twente are culturally similar. Both regions are known to be heavily drinking regions, organizing many local events, having a strong sense of local identity and in both regions quite a similar dialect is spoken (variations on the Lower Saxony languages). This similarity makes sense, since the regions border each other. This similarity is also reflected in the high social cohesion of both regions, which makes it interesting analyse them together in the case study.

As mentioned before, interviews were conducted for the case study of social cohesion in Achterhoek and Twente. This qualitative method is well known to be a useful manner of gaining deep insights and knowledge about social phenomena. Interviews also make it possible to learn how local residents of these regions perceive the social cohesion themselves. Specifically, semi-structured interviews are used. This method provides some structure for the interview, while at the same time it is possible to deviate from this structure if necessary. This way complex and notable themes can be asked about thoroughly if these may help in answering the research questions. A disadvantage of this approach is however that the researcher can be biased to further ask for theme's he/she thinks are relevant, when this is not necessarily the case. The researcher should be conscious of this potential bias and refrain from deviating to much from the structured questions.

For this case study three interviews have been conducted with residents from Achterhoek and Twente. The first interviewee is a 60 years old male from the town of Baak (Achterhoek). Baak is located in the municipality of Bronckhorst, which is regarding social cohesion the 9th highest municipality of the country. This resident had lived his whole live in exactly the same house just outside the town of Baak. In total this interview took 42:58 minutes.

The second interviewee is a male of 50 years old, from a town called Dinxperlo (Achterhoek). Dinxperlo is located in the municipality of Aalten, which is the 13th highest municipality regarding social cohesion. This resident had lived his whole life in Dinxperlo. The interview took 30:30 minutes.

The third and final interviewee is a 68 year old female from the town of Diepenheim (Twente). Diepenheim is located in the municipality of Hof van Twente, which is ranks at place 23 of the social cohesion scores. This resident has lived her whole live in Hof van Twente. The interview took 44:25 minutes.

All interviews were allowed to be recorded by the interviewees. Therefore, all of them could be transcribed using the transcribing software of 'rev.ai'. Some of the respondents spoke partly the local dialect, so these transcriptions had to be corrected manually by the researcher (who understands and partly speaks the dialect).

After this was done, the interviews have been analysed by using the qualitative analysis technique of coding. For this, a deductive coding approach was used. In this approach, a pre-defined list of codes is created in a so-called code-scheme before the researcher

starts coding the data (Linneberg & Korsgaard, 2019). The codes of this pre-defined list are derived from the existing literature and theories on the subject, and therefore helps to focus on those issues that are already known to be important. Hence, this approach is often used in theory testing and refinement (Linneberg & Korsgaard, 2019), which is exactly what this research attempts to achieve. The codes, which correspond to important themes and concepts from the literature, are then applied to the transcripts. This way, it becomes clear which themes and concepts are reoccurring and important in the transcripts, and thus also whether the literature and theories are confirmed or not. Of course, when important themes are found while analysing the data for which no codes exist yet, new codes can be created. All of this was done using the qualitative data analysis software program of Atlas.ti. The code-scheme is included in the appendix.

8. Results

In this section the results of the research will be discussed. This section is divided into three different subsections. In the first section a closer look will be taken at the social cohesion map. Then the hierarchical multiple regression analyses will be explained and summarised. At last, the results of the case study of the regions Achterhoek and Twente will be analysed.

8.1. Social cohesion map

The objective of this research project is to gain insights into regional differences of social cohesion in the Netherlands, by mapping out social cohesion across Dutch municipalities and identifying underlying causes of these regional differences. Therefore, a social cohesion map of the Netherlands was made first. The different colours in the map reflect the degree of social cohesion in each municipality. For this map the total scores on social cohesion were used. The map was made using the software program ArcGIS Pro, which is a program for visualising spatial data, creating maps and (spatial) data analyses.

Social Cohesion in the Netherlands between 2006 and 2021

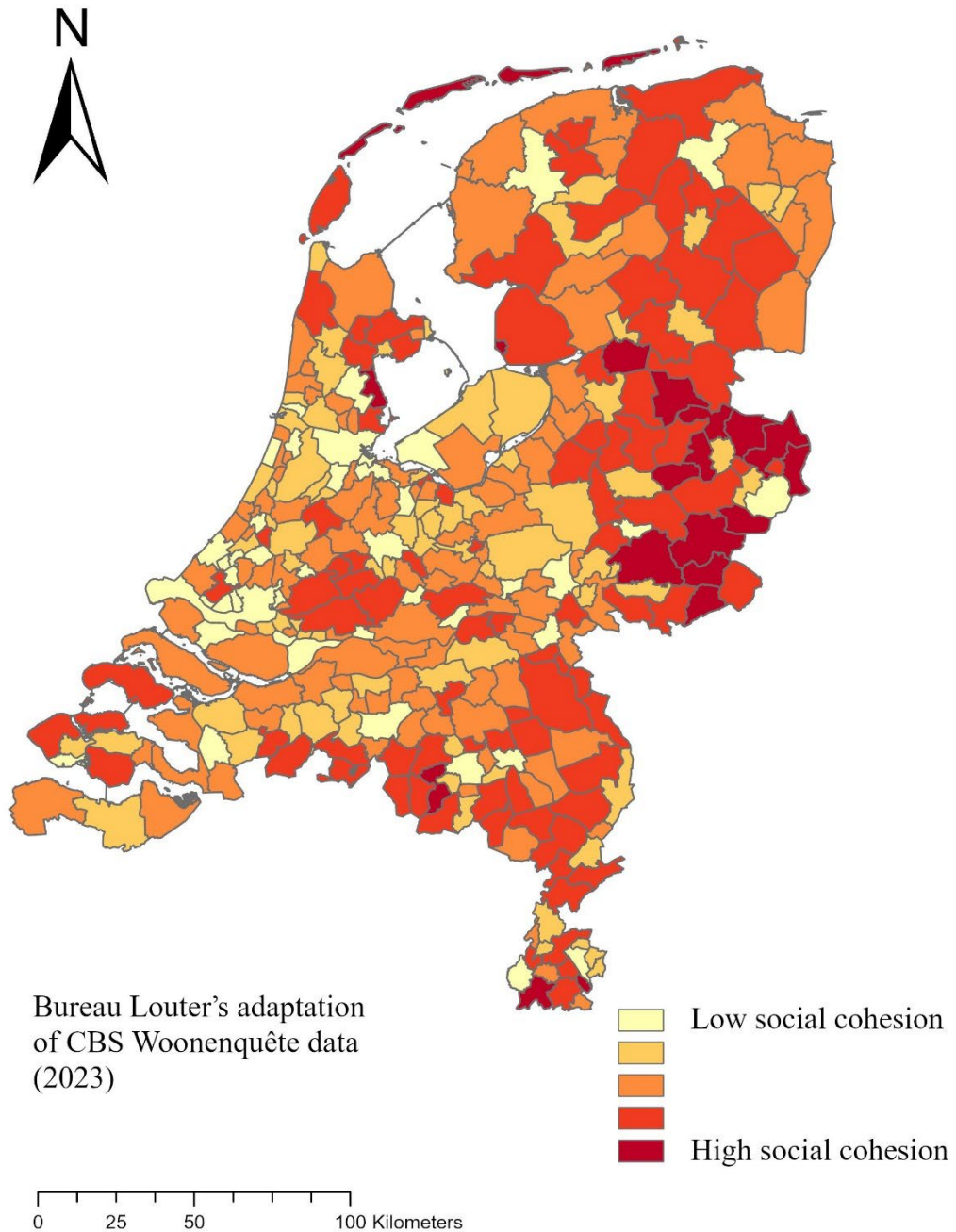


Figure 2: Social cohesion map of the Netherlands (author's own work)

Taking a look at this map, a few things immediately catch the eye. Firstly, there are three main clusters of municipalities or regions in the Netherlands where social cohesion is excessively high (municipalities with the darkest gradation of red). These three clusters are from the top down the Wadden Islands, Twente and Achterhoek. Also, when you squint your eyes, these regions stand out as being the darkest regions on the map, which indicates high social cohesion. The north-east and south-east of the Netherlands also seem score high relative to the national average, but not as much as the three above mentioned regions. Without statistical confirmation, based on this map, it seems that thus three main high social cohesion regions can be identified in the Netherlands: the Wadden Islands, Twente and Achterhoek. As probably has become clear by now, a further investigation of social cohesion in Achterhoek and Twente will be analysed in the qualitative section below.

Secondly, municipalities which are or contain large cities score very low on the social cohesion map. Almost all major Dutch cities have the lightest colour gradation on the map, indicating a low level of social cohesion. Again, no statistical analysis has been done yet, still this observation seems to be in favour of the main hypothesis.

Thirdly, low population density regions seem to have higher social cohesion than regions which are densely populated. This observation is also in favour of the main hypothesis.

8.2. Hierarchical multiple regression analyses

Here are the results of the first hierarchical multiple regression analysis. Three models with social cohesion as the dependent variable were created, using a stepwise approach. This initial regression is done without the control variables and the new variable excessive alcohol use. These will be added in a second and third regression analysis.

All the three models in this first regression are significant ($F = 270,403; 279,041; 140,571$) ($p < ,001$). The R^2 's (the amount of the variance of social cohesion that is explained by the model) are respectively ,445; ,624 and ,627. The variables were entered based on their importance. The main hypothesis, *Dutch municipalities with lower levels of urbanization show higher levels of social cohesion*, is confirmed in all three models. The regression coefficients of population density in the three models are all negative ($\beta = -,667; -,249; -,252$) and significant ($p < ,001$). This confirms that there is a significant negative relationship between population density and social cohesion. However, when the second variable ethnic variation is entered in the second model, this relationship is considerably weaker (from $\beta = -,667$ to $-,249$). Still, it is significant ($p < ,001$). This means that a part of the variance explained by population density in the first model can be contributed to ethnic variation in the second model.

Ethnic variation itself has quite a large and significant effect on social cohesion in the second model ($\beta = ,595$ and $p < ,001$). The effect of ethnic variation is actually negative since the Herfindahl index should be interpreted inversely: the lower the index, the more ethnic variation. The positive regression coefficient thus indicates that the less ethnic variation, the more social cohesion. This means that the second hypothesis, *Dutch*

municipalities with lower levels of ethnic variation show higher levels of social cohesion, can be confirmed in this analysis. The second model significantly improves the R² (R² change = ,179 and p F change <,001).

Both the percentage of highly educated people and financial capital inequality have an insignificant effect on social cohesion in the third model (respectively $\beta = ,036$ and $,035$) (respectively $p = ,377$ and $,370$). This is reflected in the fact that the third model does not significantly improve the R² (R² change = ,003 and p F change = ,245). Both the third and fourth hypotheses, *Dutch municipalities with lower levels of economic inequality show higher levels of social cohesion*, *Dutch municipalities with larger shares of highly educated people show higher levels of social cohesion*, are rejected in this analysis. The small and insignificant effect of financial capital inequality is even positive, despite the hypothesized negative effect. For none of the dependent variables in the three models multicollinearity problems have been found. Below is a table summarizing the first hierarchical multiple regression analysis.

| | Model 1 | | Model 2 | | Model 3 | |
|-----------------------------------|-------------------------|---------|-------------------------|---------|-------------------------|---------|
| | β standardized | p-value | β standardized | p-value | β standardized | p-value |
| Population density | -,667 | <,001 | -,249 | <,001 | -,252 | <,001 |
| Ethnic variation | | | ,595 | <,001 | ,617 | <,001 |
| Percentage highly educated people | | | | | ,036 | ,377 |
| Financial capital inequality | | | | | ,035 | ,370 |
| R ² | ,445 | | ,624 | | ,627 | |
| R ² change | ,445 | <,001 | ,179 | <,001 | ,003 | <,245 |
| F-value | 270,403 | <,001 | 279,041 | <,001 | 140,571 | <,001 |

Table 2: Hierarchical linear regression analysis outcome (dependent variable: social cohesion) excluding control variables and excessive alcohol use (author's own work).

Next, is the second hierarchical regression analysis, which includes the control variables of aging and average income. Four models were created. This hierarchical regression uses the same stepwise approach (order of entering variables) as the first regression, but now the first model only contains the control variables. In the second, third and fourth models, the dependent variables are thus entered in the same order as in the first regression analysis (see table 3).

All four models are significant (F = 17,120; 102,804; 162,888; 123,580) ($p <,001$), even the first model which contains only the two control variables. The R²'s are respectively ,092;

,479; ,661 and ,691. Just as in the first regression, the main hypothesis, *Dutch municipalities with lower levels of urbanization show higher levels of social cohesion*, is confirmed. In model 2, 3 and 4 the regression coefficients of population density are all negative ($\beta = -,645; -,211; -,191$) and significant ($p <,001$). Urbanization, measured as population density, indeed negatively influences social cohesion, even when controlled for a wide array of other variables.

This negative effect becomes again considerably weaker (from $\beta = -,645$ to $-,211$) when ethnic variation is added in model 3, indicating again that part of the explaining power of population density in the second model can be attributed to ethnic variation in the third model. The regression coefficients of ethnic variation itself in the third and fourth models are quite strong, negative and significant ($\beta = ,602$ and $,462$) ($p <,001$). This means that the second hypothesis, *Dutch municipalities with lower levels of ethnic variation show higher levels of social cohesion*, is confirmed. Both effects of population density and ethnic variation are weakened a bit when the last two variables are added in the fourth model.

The effects of percentage of highly educated people and financial capital inequality are both negative (respectively $\beta = -,195$ and $-,231$) and significant ($p <,001$). This is remarkable, because in the first regression analysis without the control variables these effects were both insignificant and positive. This means that a 'hidden' negative effect of these two variables is revealed when controlling for percentage of people 65 years or older and average standardized income per municipality. This makes sense after performing bivariate Pearson's correlation analysis with these two variables and the control variables. Average standardized income is positively correlated with both percentage of highly educated people ($r = ,624$) ($p <,001$) and financial capital inequality ($r = ,725$) ($p <,001$). This positive correlation of average standardized income with both these variables and social cohesion 'hides' the negative effects of these two variables on social cohesion in the previous regression. When controlling for average standardized income in the regression, the unique effects of these two variables thus become clear. Percentage of people 65 years or older is not correlated significantly to one of these two variables. When including the two control variables, the third hypothesis, *Dutch municipalities with lower levels of economic inequality show higher levels of social cohesion*, is confirmed. The fourth hypothesis, *Dutch municipalities with larger shares of highly educated people show higher levels of social cohesion*, is rejected.

One important thing to note is that in every next step the R^2 of the regression is improved significantly. Model four has a R^2 of ,691, indicating that 69,1% of the variance of social cohesion is explained by model 4. This value indicates that model 4 is indeed a good fit to the data, especially because all explanatory variables are statistically significant (Ozili, 2022). Another important thing to mention is the fact that the average standardized income per municipality is the second strongest predictor after ethnic variation. This was not expected. Again, for none of the dependent variables problems with multicollinearity

have been found. Below is a table summarizing the second hierarchical multiple regression analysis.

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
|--|-----------------------------|-------------|-----------------------------|-------------|-----------------------------|-------------|-----------------------------|-------------|
| | β standard ized | p- value | β standard ized | p- value | β standard ized | p- value | β standard ized | p- value |
| Percentage of people 65 years or older | ,240 | <,001 | ,067 | ,109 | ,108 | ,001 | ,119 | <,001 |
| Average standardized income | ,153 | ,004 | ,164 | <,001 | ,147 | <,001 | ,438 | <,001 |
| Population density | | | -,645 | <,001 | -,211 | <,001 | -,191 | <,001 |
| Ethnic variation | | | | | ,602 | <,001 | ,462 | <,001 |
| Percentage of highly educated people | | | | | | | -,195 | <,001 |
| Financial capital inequality | | | | | | | -,231 | <,001 |
| R ² | ,092 | | ,479 | | ,661 | | ,691 | |
| R ² change | ,092 | <,001 | ,387 | <,001 | ,182 | <,001 | ,030 | <,001 |
| F-value | 17,120 | <,001 | 102,804 | <,001 | 162,888 | <,001 | 123,580 | <,001 |

Table 3: Hierarchical linear regression analysis outcome (dependent variable: social cohesion) including control variables and excluding excessive alcohol use (author's own work).

In the last regression analysis, the new variable excessive alcohol use (measured as the percentage of excessive drinkers) is included. In this regression two models are created. The first model is the same as model 4 from the last regression and in the second model excessive alcohol use is added.

The second model is significant ($F = 127,515$) ($p <,001$). When excessive alcohol use is added in model 2 the R^2 significantly changes (R^2 change = ,039) ($p <,001$) to ,729. This indicates that the fit of the model is improved considerably (72,9% of the variance of social cohesion is explained by the model now).

Excessive alcohol use turns out to be a positive and significant predictor of social cohesion ($\beta = ,227$ and $p <,001$). This confirms the fifth hypothesis: *Dutch municipalities with larger shares of excessive alcohol users show higher levels of social cohesion*. However, as mentioned before in the conceptualization section, it must be noted that the effect of excessive alcohol use on social cohesion is in all probability not a direct effect. More on

this in the conclusion.

It is remarkable how the inclusion of excessive alcohol use influences other variables. As can be seen in table 4, the effects of percentage of people 65 years or older, population density and ethnic variation are weakened considerably. The effects of average standardized income, percentage of highly educated people and financial capital inequality are strengthened considerably. How the effects of these variables are strengthened in the second model remains unclear to the researcher, because a Pearson's correlation analysis shows that excessive alcohol use is uncorrelated to these variables. The predictors that are weakened by the inclusion of excessive alcohol use are significantly correlated to excessive alcohol use: Percentage of people 65 years or older ($r = ,203$ and $p <,001$), population density ($r = -,286$ and $p <,001$) and ethnic variation ($r = ,318$ and $p <,001$).

Another remarkable thing to note is that in the second model average standardized income is the strongest predictor ($\beta = ,544$ and $p <,001$), something that was certainly not expected.

Again, no problems of multicollinearity have been found for the predictors. Below is a table summarizing the third hierarchical multiple regression analysis.

| | Model 1 | | Model 2 | |
|--|----------------------|---------|----------------------|---------|
| | β standardized | p-value | β standardized | p-value |
| Percentage of people 65 years or older | ,119 | <,001 | ,086 | ,005 |
| Average standardized income | ,438 | <,001 | ,544 | <,001 |
| Population density | -,191 | <,001 | -,170 | <,001 |
| Ethnic variation | ,462 | <,001 | ,342 | <,001 |
| Percentage of highly educated people | -,195 | <,001 | -,295 | <,001 |
| Financial capital inequality | -,231 | <,001 | -,306 | <,001 |
| Excessive alcohol use | | | ,227 | <,001 |
| R ² | ,691 | | ,729 | |
| R ² change | ,691 | <,001 | ,039 | <,001 |
| F-value | 123,580 | <,001 | 127,515 | <,001 |

Table 4: Hierarchical linear regression outcome (dependent variable: social cohesion) including control variables and excessive alcohol use (author's own work).

In short, it can be said that all hypotheses are confirmed, except the fourth hypothesis regarding the positive effect of high education level. Even the newly tested variable excessive alcohol use turns out to be positive and significant predictor. When all variables are included in the last regression model, it turns out that large parts of the variance explained by urbanization (population density) in the first models can be explained by other variables in the later models. This was expected, since urbanization is correlated with all other variables except average standardized income.

Also, all models are significant and are good fits to the data (Ozili, 2022), meaning that social cohesion is predicted or explained successfully by the independent variables. The SPSS outputs will be included in the appendix.

8.3. Case study Achterhoek and Twente

8.3.1. Independent-sample T-tests

As can be seen on the social cohesion map above, the eastern Dutch regions of Achterhoek and Twente are coloured quite dark in comparison to the rest of the country. Therefore, T-tests are performed in this section to investigate whether Achterhoek and Twente differ significantly from the rest of the Netherlands regarding social cohesion and the explanatory variables. The municipalities of Achterhoek and Twente are group 1 and the municipalities of the rest of the country are group 0. The means of the variables in these two groups are compared statistically.

The first independent-sample T-test reveals that the municipalities of Achterhoek and Twente (Mean = 2,744 and Std. deviation = ,125) have in comparison to the rest of the Dutch municipalities (Mean = 2,610 and Std. deviation = ,119) a significantly higher social cohesion, $t(340) = -5,138$ and $p < ,001$. Looking at the social cohesion map, this was expected. This result also serves as an additional argumentation to further investigate the social cohesion in Achterhoek and Twente in a qualitative case study.

A second independent-sample T-test, regarding population density, shows that Achterhoek and Twente (Mean = 473,23 and Std. deviation = 416,993) score in comparison to the rest of the Netherlands (Mean = 916,90 and Std. deviation = 1042,415) significantly lower on this variable, $t(42,405) = 4,174$ and $p < ,001$. This could be a part of the explanation of the high social cohesion in Achterhoek and Twente since the regression analyses showed that low population density indeed predicts social cohesion. Still, this explanation is not nearly sufficient. The most thinly populated regions (and their constituting municipalities) in the Netherlands are located in the provinces Groningen, Friesland, Drenthe and Zeeland (*CBS Statline*, z.d.). These regions do not score as high on social cohesion as Achterhoek and Twente, as can be seen on the map (also both Achterhoek and Twente are not located in one of the four provinces mentioned above). Population density, or urbanization can thus not fully explain these regional differences in social cohesion.

The third independent-sample T-test, in which the Herfindahl index for ethnic variation is

tested, reveals that Achterhoek and Twente (Mean = ,786 and Std. deviation = ,102) in comparison to the rest of the country (Mean = ,737 and Std. deviation = ,118) score higher on the Herfindahl index, $t(340) = -1,894$ and $p = ,059$. This indicates that there is significantly less ethnic variation in Achterhoek and Twente than in the rest of the Netherlands. Reasoning conceptually, this is probably due to the facts that Achterhoek and Twente are relatively low in population density and ethnic variation and population density are correlated strongly ($r = -,703$ and $p <,001$). The less population density, the less ethnic variation. Therefore, ethnic variation can also not explain the high social cohesion in Achterhoek and Twente.

A fourth independent-sample T-test was performed to test the percentage of highly educated people. Achterhoek and Twente (Mean = 23,268 and Std. deviation = 3,833) have in comparison to the rest of the Netherlands (Mean = 26,707 and Std. deviation = 7,919) significantly less highly educated people, $t(34,935) = 3,700$ and $p <,001$. This difference corresponds with the negative regression coefficients of this variable in the regression analyses above. More high education is also known to be a characteristic of urban areas, and therefore this outcome was expected. This result also poses no explanation for the high social cohesion in the Achterhoek and Twente.

The last statistically significant independent-sample T-test reveals that Achterhoek and Twente (Mean = 10,041 and Std. deviation = 1,276) have in comparison to the rest of the country (Mean = 7,947 and Std. deviation = 1,239) a larger share of excessive alcohol users, $t(340) = -7,655$ and $p <,001$. This outcome was also expected because Achterhoek and Twente are known to be two of the heaviest drinking regions of the Netherlands (together with Wadden Islands and rich municipalities). Since no other regions display such high scores on excessive alcohol use, this variable could play an important part in explaining the high social cohesion in Achterhoek and Twente.

For financial capital inequality no statistically significant T-test outcome was found.

8.3.2. Interview results

Next, are the qualitative results of the semi-structured interviews, in which the respondents were asked to describe their experiences and explanations of the local social cohesion. For all three residents the answers were similar: they experienced the social cohesion in their neighbourhood to be quite high. All respondents described their neighbourhood to be a place where people have contact with each other on a regular basis, a place where people know each other well, a place where people regularly help each other and a place where the general social atmosphere is good. In all neighbourhoods, there were never tensions or serious disagreements between residents. In general, it can be said that in all three neighbourhoods people were socially connected to each other quite well. To the question whether people in the neighbourhood treat each other in a nice manner, the second respondent (from Dinxperlo) gave a meaningful and typical answer (which is difficult to translate from Dutch to English):

“Ja, het vertrouwelijke, het gemoedelijke. Ons kent ons.”

At best this can be translated as: *“Yes, the trusted, the friendly. Us knows Us.”*

‘Ons kent ons’ is a Dutch expression literally translated as ‘Us knows us’. It refers to a situation in which everybody in a certain social community knows each other well and is socially engaged with each other. In Dutch it is formally translated as: ‘we know each other’ or ‘a closed community which arranges matters among itself’. The respondent from Dinxperlo repeatedly used this expression to describe the social cohesion in his neighbourhood, emphasizing that people in the community all knew each other quite well and that there was a nice social atmosphere. People trust each other and treat each other in a friendly manner. The first respondent, from Baak, also mentioned that people know each other well and that there was a friendly atmosphere in the neighbourhood, but not as much as the second respondent. The third respondent from Diepenheim also explained that in general people know each other and tend to look after each other in her neighbourhood. Still, all three residents emphasized that this does not apply for everyone. There are always some people who are less socialized with the neighbourhood.

This has probably to do with a ‘issue’ of which the first two respondents spoke, but mainly the respondent from Baak. Both respondents mentioned that there were ‘people from outside’ in their neighbourhoods, who were not as much engaged socially in comparison to the local population. This theme repeatedly reoccurred in the conversations with these two residents. Respondent from Baak:

“The people who come from this region are socially well connected with each other. But the people who come from outside, they are less connected to the neighbourhood.”

When asked who these ‘people from outside’ were, both respondents answered that these are people who are not originally from the region, but mainly from large cities elsewhere. People who bought a house in these rural areas because they want to live on the country side. Again, both respondents mentioned that these people did not participate in local events, such as celebrating new year, a neighbour's birthday's, yearly neighbourhood parties, barbequing together or the local fair. These people lived more individually in comparison to the ‘local’ population. This absence of engagement with the neighbourhood of these people is a regrettable thing according to both respondents, but both also accepted that not everybody has interest in such a strong local engagement. The resident from Baak said that before these people moved into the neighbourhood, the place used to be more sociable. Because of, among other things, these people from outside, social cohesion was declining according to him.

Both respondents similarly identified what they thought was the cause of this absence of local engagement of the outsiders. These people from outside, coming from large cities, are simply not known to this culture of local social cohesion. These people did not grow up in a socially connected neighbourhood, they were not used to it, and therefore they were not engaged. Local people however, who are born and raised in the region, do know

and participate in this culture. They are grown up with it, and therefore it is normal to them. Here we see a glimpse of the shared values and traditions that are typical for rural life according to Durkheim and Tönnies. Locals of the regions are familiar with these values and traditions, but the people from the outside, the city dwellers, are not. Therefore, the local people are in comparison to the people from the outside much more socially engaged with the community. It is important to note that these people from outside are not left out intentionally. According to both respondents these outsiders choose to remain unengaged.

In both neighbourhoods one can speak of a community that is socially very engaged with each other and an additional group of people who fall outside of this engagement. The third respondent from Diepenheim did not mention this 'issue'. She did say that there are indeed increasing amounts of 'people from the outside' moving into her neighbourhood, but she did not mention that these people were less engaged socially. There are of course less socially engaged people also in her neighbourhood, but these were not necessarily the people from the outside.

It is interesting to see that all three respondents thought that their neighbourhood or community was characterised with a higher social coherence than the average in the Netherlands. This was of course also confirmed by the social cohesion map and the statistical analysis. These residents thus seem to have quite an accurate perception of the quality of social cohesion in their environments. The respondent from Dinxperlo even thought that his town was among the highest in the country regarding social cohesion. This cannot be quantitatively confirmed in this research on the scale of towns unfortunately. However, the municipality Aalten (of which Dinxperlo is a part) is the 13th highest in the Netherlands, indicating that the respondent's opinion is probably not far from the truth.

When asked why he thought the social cohesion was so high specifically where he lived, he mentioned the role of the local identity. He thought that it was a characteristic of people from Achterhoek to be very friendly and easy going.

"I think people in Achterhoek are more social. I don't know why, but still it is a feeling I've got."

He also mentioned the term 'noaberschap', which is typical for life in Achterhoek according to him. This Lower Saxony dialect word translates best to 'neighbourship'. Noaberschap roughly refers to the regional custom of helping out one's neighbours. The respondent thinks this culture of noaberschap is typical of Achterhoek and an essential part of social cohesion.

The resident of Baak does not explicitly mention this term, but he does emphasize the importance of helping out one's neighbours for social cohesion. When asked what is the most important factor explaining the high social cohesion in his neighbourhood, he mentions the collaboration between local farmers that used to be a widespread custom in his neighbourhood. In his youth, all people in the neighbourhood were small farmers.

Because of the absence of services and money for machinery, the farmers relied upon each other to run their farms. All farmers in the neighbourhood helped each other and were dependent on each other, which of course fosters social cohesion between these people. According to this resident from Baak, these historic roots are the most important explanation for the high social cohesion. The disappearance of these small farmers and the moving in of people from outside erode the local social cohesion. People are no longer dependent on each other and slowly begin to live more individually.

The third respondent from Diepenheim confirms this. In her youth it was also a custom for farmers in the community to help each other, because of the lack of money for agricultural machinery. The interdependency of the farmers fostered local social cohesion. Today, this is no longer the case for farmers. Also, the local identity plays a role according to her. The strong coherence and the custom of helping each other in the community is typical for people from Twente, she thinks.

Another interesting point is that all the respondents, especially the first two, think that high social cohesion is a characteristic rural areas. Here, they (probably unknowingly) refer to the theories of Tönnies, Simmel and Wirth and roughly make statements that are in accordance with these theories. Respondent from Dinxperlo:

“The bigger the town gets, the less social cohesion there is. Because everyone is living more privately”

“When I come to other small villages, also everybody knows each other. And that is not the case in a city.”

“In a city, I think, you are just a number. Yes, and in a small village... in a small village you see each other more often.”

“I think in small villages there is more interpersonal trust than in a city. Because in a small village you know each other.”

Also the respondent from Baak made a similar statement:

“I think in rural areas it is roughly all the same. In rural areas of all kinds of small villages, I think, there is more coherence”

These statements directly refer to the same rural/urban dichotomy described in the theoretical framework. Wirth thought that as the size of the settlement increases, social coherence decreases. This is in accordance to what these residents of Achterhoek and Twente think. Also, Simmel's idea that people in large cities live more individually and on their own, is reflected in the statements above. The small size and fewer amount of people, causes everyone to be familiar with each other. As a resident you encounter the same people time and again. This way people trust each other more and so there is more social cohesion than in a city, where this familiarity with other residents is much less. It is here, reflected in the quoted statements above, that the theoretical works of Tönnies,

Simmel and Wirth interact with the personal experiences of these two residents. The residents confirm in their own experiences that social cohesion is indeed higher in less urbanized areas. Here, they also confirm the main hypothesis: *Dutch municipalities with lower levels of urbanization show higher levels of social cohesion*. The respondent from Baak captivates this theme very concise:

“If you want to talk with somebody, you don’t have much choice.”

There are simply less people to talk to in such rural areas, which causes you to talk with the same people over and over and makes social life quite the opposite of anonymous. This is the same as the above described ‘ons kent ons’ (us knows us) culture, in which a community is socially strongly engaged. This is in stark contrast to life in large cities, where Simmel thinks anonymity, among other things, makes a strong social coherence impossible.

The woman from Diepenheim also thinks a strong social coherence is a characteristic of rural areas, but she stresses that there are exceptions to the rules. She points out that she personally knows people from large cities who live in neighbourhoods with very strong social cohesion. It depends on where and who you ask. Nonetheless, it is a fact that one encounters simply less people in rural areas and the people you do encounter are always familiar. This creates interpersonal trust, according to the resident.

A theme that also reoccurred in the interviews was the role that local events and associations play in social cohesion. All three respondents participated and volunteered in the many local events that are organised. The second respondent is also much engaged in the local soccer club. According to the respondents, these kind of events and associations play a vital role for the coherence of the community.

The man from Baak said that his engagement in the local theatre, flea markets and his volunteering for many local events are a great source of social contact with other residents from Baak. He found it very important that these kind of things would continue to exist in the future, because this way residents would continue to be connected to each other. However, he also foresees that the future of these local undertakings is fragile, because of aging. Almost all of the people who help organizing these events are of age 60 years or older, and there is not enough youth engaged with the organization of these events to make sure these do not cease to exist.

The interviewee from Diepenheim had been engaged with organising local theatre, summer fests and other events roughly her whole life. The local events play a vital role for the local society. She finds it very important to involve people with local culture. Near her residence there is also a kind of community centre, where people like to come together. At these kind of places, local events are brought to life and organised.

The man from Dinxperlo mentioned that the same kind of local undertakings were important also for his local community. He thinks that the abundance of these events are also a characteristic of rural areas, specifically Achterhoek. In all small villages where he comes, (for his job) he sees that these kinds of undertakings are organised.

“I think that [the abundance of local events and associations] is an indicator of the way people treat each other. If you don’t want to have contact with each other, then there is no neighbourhood association. It [the abundance of local events and associations] is the idea that they want to undertake things together.”

He thinks thus that these kind events are an indicator of a high social coherence in a community. This reasoning makes the causal relationship a mutual one: abundance of local events cause social cohesion, and social cohesion in turn causes many local events to be organized. This seems to be a plausible causal relationship to the researcher.

Both residents also mentioned the importance of local schools and sports clubs. In such small towns, there is almost always only one school and sports club, causing everyone to go to the same school and sports club. These are the places where people from the town meet each other. Through these places social connections are made and maintained. These places are centres of social contact and coherence according to the interviewed residents. The disappearance of these places causes the social cohesion in a community to decline. This is the case in Baak, according to this resident.

Summarizing this section, it can be said that the residents of Achterhoek and Twente indeed experience to social cohesion in their neighbourhood and town to be high. They think this is a characteristic of rural areas as well as the culture of Achterhoek and Twente. The respondents views on social cohesion are thus (probably unknowingly) in line with the theoretical framework and the statistical results.

Local events and associations also play a vital role in fostering this social cohesion and these are in turn organized because of this coherence. However, there are always people who fall outside of this socially connected culture. These are people who are not from the region.

9. Conclusion and Discussion

The objective of this research project is to gain insights into regional differences of social cohesion in the Netherlands, by mapping out social cohesion across Dutch municipalities and identifying underlying causes of these regional differences. To obtain this research objective, one main research question and four sub questions were created. In this section, answers to these research questions will be formulated based on the empirical results found in the research.

The first sub question is: What can the degree of urbanization bring to explaining the differences in levels of social cohesion in each Dutch municipality?

This question tries to answer the main relationship that is investigated in this research: the relationship between urbanization and social cohesion. Based on the theoretical works of Durkheim, Tönnies, Simmel and Wirth, it was hypothesized that urbanization would negatively influence social cohesion. This main hypothesis is empirically confirmed.

The results show that there is a negative relationship between population density (urbanization) and social cohesion. When other variables are also taken into account, this relationship becomes weaker but remains significant. It can also be seen on the map, where the urban municipalities display very low social cohesion and many rural areas much higher social cohesion. The theories of the thinkers described above thus remain relevant and valid, despite the fact that they are all roughly a hundred years old. It can be concluded that, even in these times and in the context of the Netherlands, rural social life remains quite different from urban social life. Social cohesion is higher in rural areas and this coherence is erodes as urbanization increases.

The second sub question is as follows: What do the different scores on ethnic variation, economic inequality and average education level in each Dutch municipality bring to answering the main research question?

Empirical evidence shows that ethnic variation indeed negatively influences social cohesion. This evidence confirms the second hypothesis, in which this relationship was predicted. Furthermore, ethnic variation most strongly weakens the relationship between population density and social cohesion when included in the analysis. This is because urbanization and ethnic variation are also positively related to each other. It can be said that high ethnic variation is a characteristic of large cities, which is line with Wirth's statement that population heterogeneity is higher in cities. These findings are in line with most of the literature written on this relationship.

Empirical evidence also shows that financial capital inequality negatively influences social cohesion. Therefore, the third hypothesis is confirmed. However, this effect was only found when the researcher controlled for aging and average income per municipality. How this effect is exactly influenced by these control variables, could be a subject of future research. The findings are again in line with the literature and also Durkheim's prediction that increasing differentiation in labour and wealth is a threat for the 'conscience collective'.

High education, measured as the percentage of highly educated people in each municipality, is also negatively related to social cohesion, rejecting the fourth hypothesis. Municipalities with larger shares of highly educated people thus displayed less social cohesion. Just as financial capital inequality, this effect was only found when the control variables were taken into account. Which exact mechanisms are at play when the control variables influence this effect remain unclear to the researcher. This could thus be the subject of future research. These findings were not in line with the literature, which suggest that there is a positive relationship between high education level and social cohesion. The reason for this discrepancy could be that fact that in previous studies this relationship was investigated on the individual scale and in this research it is done on a municipal scale. It could still very well be the case that social cohesion is experienced to be higher for highly educated people on the individual level, but that there are other factors correlated to high education on a municipal scale that negatively influence the experience of social cohesion for the overall population of that municipality. These other

factors are then hidden away when analysing on a municipal scale. How these discrepancies regarding scale exactly work, could also be the subject of future research.

The third sub question is: What can excessive alcohol use bring to explaining the regional patterns of social cohesion in The Netherlands?

This question takes in consideration the newly tested variable: the percentage of excessive alcohol users per municipality. The results show that there is a positive relationship between excessive alcohol use and social cohesion. The last hypothesis, is therefore confirmed. Since this relationship has never been tested before in this context, it can be said a new explaining factor is found to be related to social cohesion. How excessive alcohol use exactly influences social cohesion remains again unclear.

What is not unclear however, is the fact that social cohesion as well as excessive alcohol use is significantly higher in the regions Achterhoek and Twente then in the rest of the country. The most heavily drinking regions are also the most socially cohesive regions (the same goes for the region Wadden Islands). The exact social mechanisms that explain this relationship might be revealed when further research is done in these regions. Based on the researcher's personal experience described in the 'variables and conceptualization' section and the qualitative results, one can tentatively hypothesize that this relationship might be mediated by abundance of local events and associations of which there are so many in Achterhoek and Twente. It could also be a spurious relationship, in which the abundance of social activities explains both phenomena. Still, this remains all very speculative, and should therefore be the subject of future research.

The fourth sub question is: How do residents of the regions Achterhoek and Twente experience local social cohesion in their community?

The interviewed residents of the regions all experienced high social cohesion in their communities/neighbourhoods and they were all satisfied with the social coherence. Because all the interviewees live in a rural area, their experiences are in line with the statistical results as well as the theoretical works on which this research is based. The residents also think that the social cohesion in their neighbourhoods is higher than the average in the Netherlands, indicating that their experiences are in line with the statistical evidence. They explained that they thought that high social cohesion was typical for small villages in rural areas and this is not prevalent nearly as much in large cities, again totally in line with the ideas of Durkheim, Tönnies, Simmel and Wirth. They also emphasized that it was part of the local culture, to be socially engaged with the neighbourhood/community. This has historic roots. In addition to that, the abundance of social events and other associations within communities plays a vital role in the local social coherence. These are probably causes as well as results of strong social cohesion. As mentioned before, further research could investigate whether all these social events and associations play a part in the effect of excessive alcohol use on social cohesion, which was found in the quantitative analysis. If this is investigated, it should also be examined

whether this abundance of local social events and activities is a characteristic of the eastern regions of Achterhoek and Twente.

Concluding the research, it can be said that social cohesion is mapped out successfully, regional patterns are identified successfully and the theoretical works of Durkheim, Tönnies, Simmel and Wirth have been confirmed successfully. Additionally, the interviews have provided a more in-depth picture of the social cohesion in three communities in Achterhoek and Twente. However, no good explanation has been found that can explain the remarkably high social cohesion in Achterhoek and Twente. Only prudent suggestions have been identified.

10. Recommendations

Based on the results of this research it is difficult to make suggestions for future policy on social cohesion. It is not possible to recommend governments to decrease the population density in a region, decrease the ethnic variation and decrease the share of highly educated people because this will be beneficial for the social cohesion. It would also be irresponsible to recommend governments to stimulate excessive alcohol use for the purpose of high social cohesion. What can be recommended though, is to create policy that tries to decrease the economic inequality in regions, since the results show that high economic inequality is related to lower social cohesion.

Also, based on the interview results, it turns out that local events and all kinds of social associations play a pivotal role in fostering local social cohesion. Therefore, I would recommend municipal governments to always be in favour of and always try to facilitate such events and associations. The same goes for local schools and sport clubs. These are also essential for the social cohesion in a community. It is, among others, the duty of local governments to make sure that these services do not cease to exist.

Regarding future academic research, I would mostly suggest to put effort in investigating why social cohesion is so high in the specific regions of Achterhoek and Twente.

Unfortunately, in this research no good explanation has been found for this regional pattern, only prudent suggestions have been made. Therefore, future research can build upon this research by searching for an explanation of the high social cohesion in Achterhoek and Twente.

Another suggestion for future academic work is further exploring the effects of economic inequality and high education level. As explained before, the effects of these variables are only significant when controlled for aging and average income. Why these effects only occur when controlled for these control variables, remains unclear to me. Therefore, future research should explore the interrelations and dynamics of economic inequality, high education, aging, average income and social cohesion.

At last, I think future academic effort should be put in the investigating the role of alcohol use in social cohesion. In this research, specifically excessive alcohol use turns out to be

positively related to social cohesion. However, no further explanation is found why these two variables are related. It may even be a spurious relationship, as is explained above in the discussion. Future research should investigate this relationship to reveal which exact role alcohol use plays in fostering social cohesion.

11. Considerations/Limitations/Dilemmas

One important thing to consider during the project is that the researcher has been doing so called desk research in the largest part of this research (the quantitative part). In this part there has been no actual measurements or observations of the empirical reality in the field. Instead, already existing material has been used for the research. This is also called secondary empirical research (Verschuren & Doorewaard, 2010). The statistical data that has been used in the analysis is already existing.

One of the limitations that inevitably comes with this desk research is that the research is completely dependent on the availability of the existing data. Often in the practice of desk research, the initial research design needs to be adjusted because of the limited availability of data (Verschuren & Doorewaard, 2010). Also, the exact formulation of the research objective and set of research questions is dependent on the available sources. Fortunately, this was not really this case in this research. The initial research design, the research objective and research question did not have to be adjusted to fit the data. What had to be adjusted though, was the conceptualization of social cohesion. In the social cohesion data from Bureau Louter, the social coherence was measured with seven different indicators. Those seven indicators only partly overlapped the social cohesion indicators of Schiefer and Van Der Noll (2016) and Chan et al. (2006), whose conceptualization and operationalization I planned to use for this research. The conceptualization of social cohesion thus had to be adjusted to fit the social cohesion data of Bureau Louter. This excluded two important things that are now thus missing in the conceptualization that has been used in this research: interpersonal trust and identification with the social entity. Still, I think the final conceptualization of social coherence is quite a good reflection of the actual social coherence within a community/neighbourhood and I am very thankful that I could use the data of Bureau Louter.

In the scientific relevance it is described how to research attempts to overcome the problem of the countless different conceptualizations and ways of measuring social cohesion in previous research. It is described how this thesis attempts to provide a broad and all-encompassing conceptualization for social coherence, that also can be used for following research. I must admit that this goal has failed, because of the reasons described above. This research is dependent on available data and therefore it could not make use of this broad and all-encompassing conceptualization that was planned to use. Also, the operationalizations of the other variables were dependent on the availability of data from CBS and RIVM. This caused that not all variables are measured as I initially

planned to measure them. Also, for some variables no data was available for the required years of 2006 until 2021. Therefore, a smaller range of years had to be used and it had to be assumed that this range of years was representative of the period 2006 until 2021. For variables exactly this is the case, is described in the methods section.

It is also regrettable that because of the limited amount of time and the late decision to do interviews, only three residents of the regions Achterhoek and Twente have been interviewed. This is of course not nearly enough to be representative of both regions. These interviews could therefore better be seen as sketching the narrative of high social cohesion in Achterhoek and Twente. Instead of reliable and valid proof of the high levels of social cohesion in these regions, it is more a complementing of personal experiences to fill in the story.

In hindsight, it may not have been wise to measure the variable of high education level as the percentage of highly educated people per municipality. Previous research does show that there is a positive relationship between high education level and social cohesion, but this research all measured this on the individual level. In contrast, in this research high education level is measured on a municipal scale. A negative relationship was found between the two variables. How can this be explained? One plausible suggestion, which has already been mentioned above, is this: It could still very well be the case that social cohesion is experienced to be higher for highly educated people on the individual level, but that there are other factors correlated to high education on a municipal scale that negatively influence the experience of social cohesion for the overall population of that municipality. These other factors are then hidden away when analysing on a municipal scale.

Using a municipal scale also comes with the limitation of generalising municipalities. This point has been touched upon before. When municipalities are the scale of analysis, this means that all differences and contradictions within a municipality are not visible and therefore generalized. All this specific information about the variables within the municipality are reduced to one number. This simply means that information is lost. Especially for municipalities constituting both highly urban and highly rural areas, such as Groningen or Leeuwarden, this can lead to biases. The differences in urbanization within these municipalities are thus not taken into account in this research.

Another important thing to keep in mind is the fact the theoretical framework that have been used is quite old. The works from Durkheim, Tönnies date back to the late 1800s, and the works from Simmel and Wirth date back to the early 1900s. This time in history, the turn of the twentieth century, is of course characterized with unprecedented urbanization, industrialization and modernization. These large-scale developments allowed these thinkers to come up with their ideas as they did, but it also gave them a biased view. They might have overemphasized the influence of urbanization on social cohesion and social life in general, because these grand developments were completely

new in those times. The real implications of these developments were not yet empirically observed. In other words: the theory might be outdated. Still, as mentioned above in the theoretical framework, the theories have been used throughout the twentieth century until now with quite some empirical success. In this research, the theories have also been confirmed empirically. This tells us that despite being roughly hundred years old, these theories remain relevant today.

As a researcher it is important to reflect on your own positionality, because this always influences the way you conduct research and thus also the results. In this case it was important for me to keep in mind that I am probably biased regarding where I think social cohesion is high or low. Being born and raised (and still living) in the municipality Oost Gerle, quite a rural municipality, which scores very high on the social cohesion ranking of Bureau Louters, I have a prejudice that social cohesion is higher in rural areas and lower in urban areas. I also experience this social cohesion very much myself in the place where I live. This makes me suspect that the theories of Durkheim, Tönnies, Simmel and Wirth are true, or are at least partly true. I have been probably (consciously or unconsciously) inclined to find results that support these theories.

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13. Appendix

13.1. Interview guide

Interview resident ...

Requirements: Must have lived roughly his/her entire life in the municipality of ... (formerly consisting of municipalities of ...).

Interview:

First of all, I am very grateful that you have made time to participate in this interview. I am Vince Brummelaar, a student at Radboud University. For my Bachelor thesis I am doing research on social cohesion in the Netherlands. In order to do this research, I am doing interviews with people in the Netherlands to find out how they experience social cohesion in their neighbourhood. With social cohesion I mean: The extent to which you feel connected to your neighbourhood, and also the extent to which the neighbourhood as a whole is socially connected. In order to record this interview in the best possible way, I would like to ask you if you would allow me to record the interview? So that I can transcribe it later. The recording will be kept confidential, it will never be made public without your permission and will only be used for purposes of the study. Do you have any further questions? First some general information:

What is your name?

What is your age?

Where were you born? And where do you live now?

Can you tell a little about yourself and your current place of residence?

Can you briefly tell how your life has gone? For example, your education, (former) job, do you have children?

Why did you choose to live here?

How would you describe the general atmosphere, living together, in your neighbourhood?

Do people in this neighbourhood treat each other in a friendly manner?

Do in general people in this neighbourhood know each other well?

Do you have much social contact with your direct neighbours?

Do you have much social contact with other neighbourhood inhabitants?

Do you find this neighbourhood to be a sociable (Dutch word is 'gezellig', which is very difficult to translate correctly) neighbourhood?

Do people in this neighbourhood help each other and do they undertake things together?

Do you feel responsible for the liveability of the neighbourhood?

Do you think the other neighbourhood inhabitants feel responsible for the liveability of the neighbourhood?

Are you pleased with the population composition of the neighbourhood?

Do you think the social coherence in your neighbourhood is different from the average neighbourhood in the Netherlands?

More or less social cohesion?

Why do you think the social coherence in your neighbourhood is more or less than in the average neighbourhood in the Netherlands?

If you had to give a main explanation for the degree of social coherence here in the neighbourhood, what is that explanation?

Are there other less important explanations?

Have you experienced change in social coherence over time?

13.2. Coding scheme

- Aging
- Being favourable to each other
- Children
- Declining social cohesion
- Disappearance of local services
- Education level
- Ethnic variation
- Everybody knows each other
- Excessive alcohol use
- Experience of high social cohesion
- Experience of low social cohesion
- Financial inequality
- Finding social cohesion important
- Historic roots
- Intergenerational
- Local events
- Local identity
- Not satisfied with social cohesion

- Satisfied with social cohesion
- Outsiders
- Population density
- Rural/urban dichotomy
- Social control
- Trust
- Volunteer work

13.3. Correspondence with Bureau Louter

Logbook social cohesion data:

15th March: I had mr. Peter Louter on the phone from the research institute Bureau Louter. Quit a long conversation. He did not want to share the concerning data with me because the data I use must be submitted to the university. He was afraid that the data would end up in a public data base or that somebody else would get access to the data and would use it. He could deliver the scores on social cohesion he compiled for each municipality, but not the exact raw data. I asked him if he wanted to stay in contact with me if I would look for a solution to this problem. He did want to stay in contact.

18-20th March: I sent out an email to Mrs. Garidou with the problem. She referred me to Mrs. Donnelly-Landau and Mr. van der Velde. They made clear to me via email that the data is indeed expected to be handed in on Brightspace, but it will be only accessible for me and my supervisor. Nobody else. The thesis itself will be posted on the Radboud repository, but since the thesis only contains the results of the research and not the exact data this is not so much a problem.

20th March: I called Peter Louter again with the new information. He agreed that he would want to share some data with me, I was not sure yet which exact data but that was something to think about later on. He was also willing to help me navigate me through the data. Very kind of him. But, he wanted, understandably, a declaration of me and my supervisor for the non-further usage and distribution of the data. I sent out an email to my supervisor, Mrs. Garidou, and she agreed to sign such a declaration.

4th April: I spoke with Peter Louter again. I told him briefly about the red lines of my thesis. He gave me some tips. The individual variables which explain social cohesion should be tested on correlation (VIF). If they correlate too much, they should not be used in the regression.

For economic inequality, he told me that it is difficult to find open data by CBS, so maybe SES (Sociaal Economische Status) could be used.

The data on social cohesion is measured on neighbourhood level (in the sense of the interview questions), but the analysis is done at the municipal level. This has implications for the conceptualization of social cohesion, and this should be adjusted in the report.

Highly educated people probably experience more social cohesion on a larger scale, for example on the scale of a city. Lower educated people probably experience social cohesion on a lower scale, for example neighbourhood scale.

Maybe I could do interviews, to see if the quantitative results are being confirmed.

Personally, I am not really sure whether interviews would really complement the research.

Public participation could also be measured, or taken into account in the analysis.

Then he said he would share the data with me in the weekend of 6 to 7 April. He would share the total score on social cohesion, which is compiled of 6 interview items. He also wanted to share those 6 items.

He also said that I should make a document for the signatures of me and ms. Paschalina, send it to him so he could possibly make adjustments, and then sign it and send it back to him. Just a word document would suffice.

For the source reference 'Bewerking CBS woonenquête van Bureau Louters' would suffice.

22th April: Data has been received from Bureau Louter. It contained 7 indicators of social cohesion (instead of 6) and a total score. In addition to that it also included the ranking of each municipality on each of the indicators as well as the total score.

13.4. Declaration of non-further usage and distribution of data

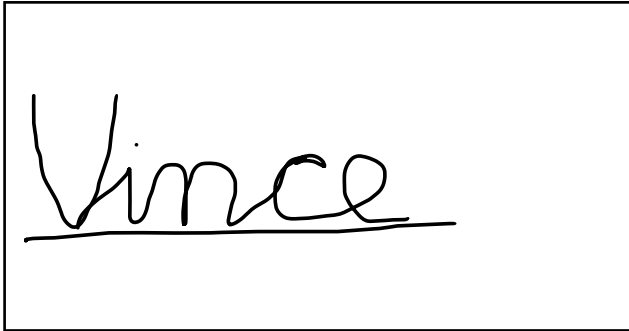
Declaration of non-further usage and distribution of the data received from Bureau Louter.

Date: 04-04-2024

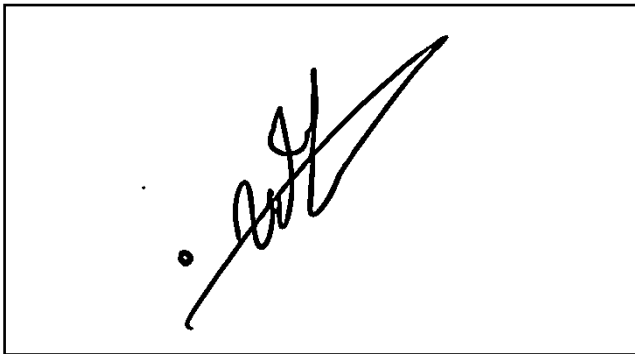
Prepared by: Vince Brummelaar (student Geography, Spatial Planning and Environment at Radboud University)

For my Bachelor thesis on social cohesion in the Netherlands, I approached Peter Louter from Bureau Louter on the 15th of March with the question whether I could use the same data he used for his residential attractiveness research in 2023, in which social cohesion was taken into account as a special topic. Peter Louter agreed to share the data on the condition that the data would not be stored in a public database and would not be publicly accessible. After a correspondence with the coordinator of the Bachelor theses of Geography, Spatial Planning and Environment, Martin van der Velde, I confirmed to Peter Louter that the data will not be stored in a public data base and that the data was only accessible for me and my supervisor, Paschalina Garidou. Therefore, he wanted a declaration of me and Paschalina Garidou for the non-further usage and distribution of the data received from him.

Hereby I, Vince Brummelaar, declare that I will not further use or distribute the data I received from Bureau Louter:

A rectangular box containing the handwritten name "Vince" in a cursive script, underlined with a single horizontal line.

Hereby I, Paschalina Garidou, declare that I will not further use or distribute the data my student, Vince Brummelaar, received from Bureau Louter:

A rectangular box containing a handwritten signature in a cursive script, consisting of a series of loops and a long diagonal stroke.