



**Universiteit Utrecht**

**Why there: distribution of citizens  
initiatives explained**

*A study on the geographical distribution of citizens  
initiatives in care and welfare in the Netherlands*



**Thijs van der Knaap**

Master thesis Contemporary Social problems  
Faculty of social and behavioral sciences  
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**Utrecht, 26, June, 2017**

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## Preface

Before you lies my master thesis: 'Why there: distribution of citizens' initiatives explained'. This thesis was made as part of the master: 'Contemporary social problems' of Utrecht University and on behalf of NIVEL, Netherlands institute for health services research. This thesis marks the end of my career as a student and a long period of studying in Utrecht. It was a long year that was educational, enlightening, sometimes stressful and exhausting but above all fulfilling. I realise that I would not have been able to write this thesis without the help of a few other people and I want to take this opportunity to thank them.

Firstly I want to thank my study partner and statistics guru Lisa Vermeulen, whose knowledge of Stata and MLwiN helped me come to better results and whose company made long days at work a lot more fun.

Next I want to thank my thesis supervisor Peter Groenewegen whose advice and encouragement helped me tremendously during the process of writing. His openness for questions and tireless efforts to improve my research raised the quality of my thesis and he taught me a lot.

I also want to thank a lot of colleagues at NIVEL for the help they provided during my time at NIVEL:

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Additionally as every sociologist should, I want to thank all my weak ties that have given me strength in this period. Your support was like a bridge that helped me cross into the next phase in life.

Lastly I want to thank my parents and my sister for listening to my stories about the internship and writing a thesis and the struggles that come with it. For the mental support during the whole process of writing a thesis and for motivating me. This helped me to successfully finish this thesis.

Utrecht, June 2017

## Summary

In this study we identified the geographical distribution of citizens initiatives in care and welfare. We found that there are three areas where the presence of citizens initiatives in care and welfare is higher. These areas are:

- Urban/semi-urban communities in Randstad
- Non-urban communities in northern Limburg and eastern Noord-Brabant
- Northern and eastern parts of the province of Groningen

There are two provinces where (almost) no citizens initiatives exist Flevoland where none are present and Zeeland where only one is active.

We found only a few relationships that might explain this distribution although more research is needed to come to a more complete answer. In general citizens initiatives in care and welfare are more likely to be present in areas where the distance to the hospital has decreased, this is especially the case with rural areas where also a small decrease has a relationship with the presence of citizens initiatives. Furthermore citizens initiatives are more likely to be present in more populous areas and less likely to be found in semi-rural areas. In urban/semi-urban areas a higher social economic status in an area is related with a higher change for the presence of citizens initiatives in care and welfare.

Because of this we recommend that policy makers are aware that there is not yet scientific proof on what influences the emergence of citizens initiatives in care and welfare and that “common-sense” factors like education level and social capital appear to not have any relation with the emergence of citizens initiatives in care and welfare. It is important to recognize that the influence policy makers have on the emergence of citizens initiatives might be limited and that more scientific is needed to uncover other factors that do have a relation with the presence of citizens initiatives in care and welfare.

Citizens’ initiatives in care and welfare are a phenomenon that is, according to earlier research, becoming increasingly popular in the Netherlands and Europe. While this phenomenon, local and collective actions by citizens to provide care and welfare in their local community, has the interest of researchers there is little research that uses quantitative statistical methods to study it.

The goal of this study is to use quantitative statistical methods to gain more knowledge about the nature of this phenomenon while also looking at the geographical dimension which has to our knowledge not been looked at this extensively before in research about citizens’ initiatives in care and welfare in the Netherlands. The main question we want to answer in this research is “*What is the geographical distribution of citizens’ initiatives in care and welfare in the Netherlands and how can this distribution be explained?*” additionally we want to answer a policy advise question: “*How can policy makers of public and private institutions stimulate citizens’ initiatives?*”.

To answer this question firstly an inventory of citizens' initiatives in care and welfare has been done based on two databases of initiatives of earlier research and an additional search strategy. Based on this inventory firstly the distribution of citizens' initiatives was mapped using Tableau and the clustering of the initiatives was investigated using a statistical method to calculate a measurement for clustering, Moran's I. Secondly multiple hypotheses were tested with data from CBS, WoOn and SCP by using a multilevel analysis on three levels, province, municipality and postal code area both in general and stratified according to urbanity level.

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## 1. Introduction

*"The classic welfare state is slowly but surely changing into a participation society. Everyone who is able will be asked to take responsibility for his or her own life and surroundings"*(Willem-Alexander Koning der Nederlanden, 2013)

The quote above is from the “Troonrede” in 2013, a speech by the Dutch monarch on the third Tuesday of September in which the monarch reviews what happened the last year in the Netherlands and the rest of the world and in which the intended policy of the cabinet for the next year is presented. The central word in this quote is participation society, the word of 2013 and indicative of the political and societal view of the cabinet regarding the role of citizens in society. Although the word has a longer history, being used as early as 1991 by Wim Kok as a new form of society that is replacing the classic welfare state (Passages uit toespraak van partijleider Kok, 1991) it gained prominence only after the “Troonrede” of 2013. The word has now become part of the collective vocabulary. In this participation society citizens are supposed to have more responsibility to form their own future and contribute to society. While the term participation society started only to be used more in 2013 the societal trends that led to the popularization of the word started earlier. Trends like globalization, individualization and easier access to information due to internet, changed the role of the citizen in society and the relationship of citizen and government. Citizens are no longer content sitting idly by while waiting for the state to fix their problems, partly because decreasing trust in the government and politics (Hendriks, 2009) and partly because of cuts in the healthcare budgets. They actively engage with policy and give their opinions on it (Van Buuren & Edelenbos, 2008). In the contemporary political climate citizens are encouraged to participate and active citizen participation increasingly is seen as an essential factor in policy (Bruijn & De Graaf, 2012; Van Rijn 2015). The Netherlands does not stand in the idea that the welfare state in its current form is no longer sustainable and that active citizenship is important in today's society. In the United Kingdom a related political idea was formed by the conservative government of David Cameron which was named Big Society. In this plan own responsibility, citizens caring for one another and active citizenship were stressed, showing many parallels with the ideas of the participation society. Here also if there are local issues, citizens are expected to take care of these issues themselves instead of waiting for the state to intervene (Johnson & Pattie, 2011).

Against this political background it is not surprising that there is more interest in “citizens’ initiatives”, citizens taking action on their own accord for a certain (societal) goal without direct instruction of the government (the full definition of citizens’ initiatives will be given later in this thesis). This is one of the ways active citizens can put their active citizenship into practice, working together with others to reach their desired goals. There are many different forms of citizens’ initiatives in the Netherlands that provide services like: (green) energy, insurances, public services like supermarkets, libraries or crèches and care and welfare.

In this thesis the focus is on citizens’ initiatives in care and welfare. The field of care and welfare is in shift in the Netherlands since the decentralization of care in 2007. The “Social support act” (*Wet Maatschappelijke Ondersteuning* in Dutch) put the responsibility of



many of the care tasks in the hands of municipalities instead of the national government. Care providers, researchers and professionals have voiced their concerns about the plans expecting that not all municipalities will have the capacity to provide good care to their citizens (Van Cadsand et al., 2011). Disturbing the balance between the four providers of care namely: state, professionals, family and market (Knijn, 2004) or the paradoxical nature of much of the political decision making surrounding this topic are likely to lead to unforeseen consequences or policy that does not work (Dijkhoff, 2014). Dijkhoff (2014) names a few problems with the policy which he calls the “decentralization paradox”. An example of a paradox he sees is: on the one hand municipalities are supposed to have more knowledge about the preferences and needs of their citizens and therefore are assumed to be better able to provide tailor-made care but on the other hand the national government wants to merge smaller municipalities to upscale operations and realize cost efficiency which would lead to an increase in the size of municipalities increasing the supposed distance between policy makers and citizens. Another paradox he sees is the clash between the call by the national government for tailor-made policy of municipalities based on local context and the value of equal treatment of all. The tailor-made policies based on local context by definition create a situation where people in different municipalities are treated differently but this is unavoidable if you want local solutions and it is thus impossible to satisfy both conditions at the same time.

Active citizen participation in the form of citizens’ initiatives in care and welfare could be a way in which communities can provide better care and welfare in their area and to counteract problems that might arise from these policy changes and is thus a subject that deserves attention because the provision of care and welfare is an important topic both in the scientific community and with policy makers. Despite this there is little scientific research that studies this phenomenon on a national scale, mostly previous was based on the study of a few examples. To gain better understanding of this phenomenon citizens’ initiatives in care and welfare will be studied. The goals of this study will be explained in more depth in the next section.

### **1.1 Goal**

The aim of this research is to give insight into citizens’ initiatives in care and welfare in today’s society, describing their geographical distribution and explaining this distribution. To reach this goal quantitative research will be done based on theories in the fields of sociology, organizational science, psychology and geography. This research aims to increase the understanding of citizens’ initiatives in care and welfare and provide policy makers and citizens with the knowledge to create, maintain and support citizens’ initiatives in care and welfare in a better way.

### **1.2 Research questions**

Three questions will be central in this research. Firstly a descriptive question will be answered as this can give insight into the nature and extent of the phenomenon citizens’ initiative in the Netherlands. The first question is as follows:

*“What is the geographical distribution of citizens’ initiatives in care and welfare in the Netherlands?”*

The answer of the descriptive question will be the basis for the explanatory question of the research. This question will be as follows:

*“How can the geographical distribution of citizens’ initiatives in care and welfare in the Netherlands be explained?”*

When these two questions are answered the results of this research will be used to formulate an answer to the policy question:

*“How can policy makers of public and private institutions stimulate citizens’ initiatives in care and welfare?”*

### **1.3 Empirical strategy**

To answer these questions a quantitative research will be conducted. First the descriptive question will be answered using data on citizens initiatives in care and welfare of two earlier inventories by Vilans and Utrecht University. This data will be used to identify the geographical distribution of citizens initiatives in the Netherlands. Secondly an ecological study will be undertaken using a multilevel analysis that will be done to identify factors that can explain the found geographical distribution of citizens initiatives over the Netherlands.

### **1.4 Scientific relevance**

Even though citizens’ initiatives in care and welfare in the Netherlands have received a fair amount of attention in scientific circles there has to our knowledge never been a quantitative analysis of citizens’ initiatives in care and welfare. Most research that has been done has been either qualitative research where interviews with leaders, members and other stakeholders of citizens’ initiatives are used as basis for research (Van Beest, 2014; Dictus, 2013; Baetens 2013) or meta/descriptive research that bases itself on earlier research to come to conclusions (Bokhorst, 2015; Bouwmans & Swinkels 2015; Van Xanten et al. 2011). With the use of quantitative data the aim is to come with conclusions that are generalizable instead of an illustration of (part of) the phenomenon. Earlier research has given little attention to geographical factors that might influence the emergence and preservation of citizens’ initiatives, this research adds this dimension to the existing literature.

This study fits in the sociological tradition because it touches on a central theme of sociology: cohesion. Cohesion is an important theme in this study because cooperation between individuals to reach shared goals is both a manifestation of cohesion and also cannot come about without a minimum level of cohesion. Without cohesion people don’t trust each other enough to work together.

### **1.5 Societal relevance**

As mentioned before in this chapter, Dutch politicians, non-governmental organizations and commercial organizations are increasingly positive about active citizenship and citizens’ initiatives. Despite this there is little policy or other plans on citizens’ initiatives in care and welfare and how these initiatives could be supported. Third parties, those aforementioned and others could most likely play a role in facilitating citizens’ initiatives and increasing the chance that an initiative will succeed in their municipality (Turnhout et al. 2016). To make it easier for policy makers, other politicians and organizations to provide a facilitating role for

citizens' initiatives in care and welfare it is important to identify which factors play a role in the emergence and success of these citizens' initiatives. The identification of success factors is crucial for a successful implementation of (municipal) policies that facilitate citizens' initiatives. Many citizens' initiatives are hindered by existing policies and sometimes policies can even have a reverse effect (Turnhout et al. 2016; Baetens, 2013; Peeters & Drosterij 2011; Oude Vrielink & Verhoeven, 2011). This study hopes to identify these factors and thereby help interested policymakers make better policies.

## **1.6 Thesis outline**

The outline of this thesis is as follows. In chapter 2, the theory and hypothesis chapter, scientific research about citizens cooperation, citizens' initiatives and civil society will be discussed. First a background of citizens' initiatives will be given and previous research on this topic will be discussed. Then a general framework theory will be discussed which will give the assumptions on human behavior and cooperation that will be the basis for this research. Previous research combined with the assumptions that followed from the general framework theory will then be used to identify factors that might influence the distribution of citizens' initiatives in the Netherlands and hypotheses will be formulated based on this. Chapter 3 is about the methods of research. In this chapter we will explain how the research will be conducted, how different terms will be operationalized, how the hypotheses will be tested and which data will be used to test these. Chapter 4 is the results chapter in which the results of my research will be presented. In chapter 5 conclusions will be drawn from these results and the research questions will be answered. Additionally strong points and limitations of this research will be discussed and recommendations for further research will be made. In chapter 6 policy advice will be given on how policy makers can use the insight gained from this study to stimulate citizens' initiatives in their communities.

## 2. Theory

### 2.1 Background

In this chapter a context for the emergence of citizens' initiatives in care and welfare will be given. First we will sketch the influence that the political climate in the Netherlands has had on the emergence of citizens' initiatives. Afterwards we will define precisely what a citizens' initiative in care and welfare is and lastly we will give a quick overview of the international situation with regard to citizens' initiatives.

The idea that the social network and the community should be more responsible for care and welfare has taken hold in Dutch politics and is lead down in legislation, like the Participation act and Social support act (van Rijn, 2016). The political climate of the governing parties is one that supports the idea of a smaller central state (Bruijn & De Graaf, 2012). Therefore the government decentralized a lot of responsibilities with regards to care and welfare to municipalities. This decentralization was done for many reasons. One of them is that care is considered best when it is tailor-made because it increases the quality and although not specifically stated in policy documents, reduces costs (van Rijn, 2015).

Amidst of all these changes in the policy of care and welfare a new type of organization has entered the Dutch care and welfare landscape. It is providing care and welfare in a different way compared to "traditional" professional care institutions. This organization type is called "care cooperative" or "citizens' initiative" in societal, political and scientific discourse in the Netherlands. In this study the term citizens' initiative (in care and welfare) will be used because it does not limit itself to one (legal) form of organization (cooperatives) or gives the impression that only cooperatives in their legal form will be studied. This allows for a broader research of the available initiatives without excluding organizations that are functionally equivalent, but do not use the specific organizational form of the cooperation. It also allows for the easier use of international literature on cooperative-like organizations that differ from the organizations in the Netherlands because differing laws and cultures shape organizations to be different but doing comparable things.

In the Netherlands there are many different forms of citizens' initiatives in care and welfare but they share a core identity. Citizens' initiatives are defined by the European confederation of industrial and service cooperatives (CECOP) as: *organizations that are established by a group of citizens with the goal to reach a certain societal goal for the community in which they operate and are not focused on making profit* (Spear, 2009). In most cases the organization is democratic with voting power not based on capital (shareholders) but on membership. However this is not the case in every citizens' initiative. Furthermore a big share of the work in the initiative is based on volunteers instead of paid employees (Spear, 2009). The definition of Spear (2009) is not recognized by all and has no official status. The emergence of citizens' initiatives is relatively new and the initiatives often have country-specific features, making a general definition that is useable in every country and that is also specific more difficult to give. Furthermore there is a lack of international comparative research into the phenomenon of citizens' initiatives. Most research focuses on domestic initiatives. But despite this, the definition that is given includes many of the characteristics

given in Dutch research into this topic, sharing the emphasis on the local focus of initiatives, the fact that initiatives are started by citizens to reach certain social goals and the non-profit nature.

The two Dutch inventories that we use in our study have similar definitions of citizens' initiatives. The research done by Utrecht University and Institutions for Collective action by Professor Tine the Moor and colleagues defined citizens' initiatives in care and welfare (or as they called them in earlier inventories: "care cooperatives") not in clear terms. When we dig deeper in the publication on which most other inventories are based (Van Beest, 2014) we can infer the following characteristics:

- Initiatives are started and led by citizens
- Initiatives are focused on local and collective actions
- Initiatives are not started out of entrepreneurial spirit or to make (individual) profit but to benefit the community

The researchers at Vilans that started doing inventories of citizens' initiatives in 2014 have defined citizens' initiatives in care and welfare as follows:

- Initiatives that are undertaken by citizens as opposed to (social) entrepreneurs or professional organizations
- Initiatives that focus on care and/or welfare
- Initiatives that have a local focus where local citizens focus on local issues

Care and welfare provision is defined in very broad terms in accordance to the definition of Tronto (1993) of care. They are all actions that lead to better health and welfare for the targeted individual or community. It is not restricted to nursing and providing healthcare but also other actions that provide welfare and health to individuals, like the provision of good and healthy food, social activities and social support.

We combine these two definitions together to come to the following definition for citizens' initiatives in care and welfare: *organizations that are established by a group of citizens with the goal to provide actions that increase the health and/or welfare within the (local) community in which the organization operates and not focused on making a profit.*

This definition will be the one used in this study as well.

Internationally citizens' initiatives in care and welfare have taken many forms based on national culture and regulations. It falls outside the scope of this study to discuss the forms citizens' initiatives take in different countries. However the emergence/resurgence of organizations that share common features with citizens' initiatives in the Netherlands, is also occurring in other western countries. In some countries it in fact happened much earlier than in the Netherlands (Thomas, 2004; Borzaga et al. 2014).

Italy is one of the earliest examples of a country where in modern times a lot of citizens' initiatives have started. They provide a significant amount of the care and welfare in the country. In Italy citizens' initiatives take another legal form and are much more formally

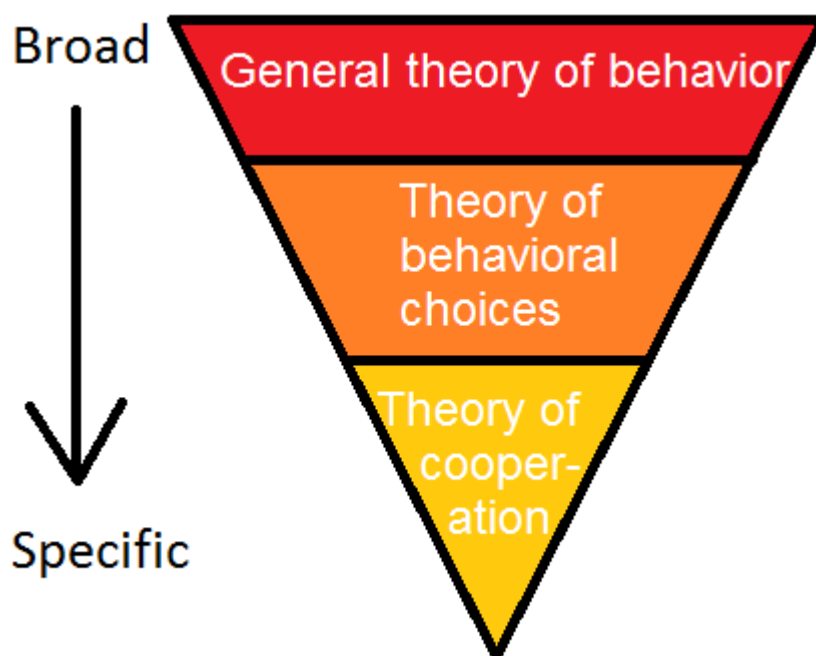
defined than in the Netherlands. They are limited liability joint-stock companies instead of associations but they still adhere to the definition of Spear and Vilans/UU that were stated above. They are called social cooperatives in the international literature. Italy adopted legislation that recognized an organizational type that engaged in the creation of benefit for individuals in communities and helped with integration of disadvantaged groups in society (Thomas, 2004). Social cooperative were thriving partly because of this official recognition by law and partly because of societal factors within Italy, such as a weak state that did not provide services for the common good the way people wanted it. The social cooperatives were able to grow into an important part of the Italian society providing a significant amount of people with care and welfare (van Opstal, 2011; Thomas, 2004). Geographically speaking cooperatives in the north are more plentiful and successful in the north of the country compared to middle and south Italy and cooperatives on the Italian islands (Carini et al, 2012). This difference is not explored beyond mere observation and any explanation for this difference is speculation. But it might have to do with the lower levels of social trust and civic engagement in the south, a factor that was identified by Putnam et al. (1994) as one of the reasons why institutional performance is lower in the south and central parts of Italy.

In the UK the dominant term for initiatives that are most similar to citizens' initiatives in care and welfare is the social enterprise. This label, just like is the case with citizens' initiatives, is very broad and the organizations that fall under it are very diverse. Typically they are organizations that use their business and revenues to fulfill their missions which are most often social or environmental in nature. While not entirely the same phenomenon as citizens' initiatives in the Netherlands and not fitting in the definition as given by Vilans, they share a lot of features like reliance on voluntary work, engagement of the community in or by the project, striving for a goal that benefits the (local) society as a whole. So while social enterprises are excluded from the inventory in the Netherlands they can give an insight in the way the development of a similar phenomenon has taken place and is taking place in another country. In research on social enterprises it is suggested that while individual vision and leadership are important social factors and the context in which people operate is also important in understanding why organizations emerge (Buckingham, Pinch & Sunly, 2010; Seanor and Meaton, 2007). "*These [social] firms are rarely the product of the lone actions of a single 'heroic' individual*" (Amin, 2009 as cited in Buckingham et al. 2010). While some research has been done on the geographic distribution of social enterprises in the UK all this research has been based on case studies (Buckingham, et al. 2010). In one influential study, Amin (2002) identified six factors that influence the emergence and success of social enterprises, but these factors were not based on any statistical research or other quantitative evidence. Buckingham et al. (2010) rectify the lacuna in the research on geographical factors that influence success and emergence of social enterprise. They used existing data to examine regional differences with regards to the presence of social enterprises similar to the method of this study. They provided an overview of the distribution of social enterprises in the UK but did not try to explain this. They concluded that while some (small) regional differences seem to be present, differences are generally not statistically significant. They conclude that social enterprises seem to be fairly evenly distributed over the UK although, because of the lack of quality and detailed data, it is hard to say for sure.

## 2.2 Overarching theory

In this section we aim to give an overarching theory that sets the framework for this thesis and from which hypotheses can be derived. This overarching theory will be a combination of three theoretical approaches. In figure 2.1 a schematic picture of this combination is given. This section consists of four sub-sections. In the first sub-section we will start very broad and give a theory about human behavior in general that explains what basic motivations for human behavior are. After that we will give a more specific theory on why people choose certain behavior over others and what their goals are. Thirdly, we will explain why and when this behavior might lead to cooperation between people. Cooperation that can take the form of a citizens' initiative. This way first broad ideas about human behavior will be discussed and gradually it will become more and more specific to the case of citizens' initiatives. Lastly we will conclude with the findings of this section and how they will be applied in the rest of the study.

Figure 2.1 – Ordering of theories



### 2.2.1 General theory of behavior

When researching human behavior it is important to specify what kind of view of human nature is held. This view determines in part what behavior is expected given certain situations. In this study we follow the view of human nature of Alfred Adler.

Adler argues that human behavior is goal-oriented and that people strive for success (Adler, 1927). The notion that human behavior is goal oriented gives a direction to go in while trying to answer the explanatory question of this paper: *“How can the geographical distribution of citizens' initiatives in care and welfare in the Netherlands be explained?”*. Citizens' initiatives can be seen as a collection of individuals that behave in a certain way to reach a goal. This notion opens new questions that can further the understanding of this specific kind of behavior. What goals do individuals want to achieve and when does this take the form of a citizens' initiative? These questions will be discussed in the next two sections.

### 2.2.2 Theory of behavioral choices

In the previous section it was established that individuals are goal-directed. The next question is then: what goals do individuals strive to achieve? This question will be the focus of this section because Adlers idea cannot adequately answer this question.

A theory in the sociology that explains what goals individuals strive to achieve is the social production function theory of Lindenberg (1986; 1991) which he presented in a more complete form with Frey (Lindenberg & Frey, 1993). This theory poses that individuals produce their own well-being by striving towards two universal goals: physical well-being and social well-being. The way individuals try to achieve these goals depends on what resources and constraints they face while striving for well-being. The two universal goals, physical well-being and social well-being, are broken up into respectively two and three first order goals that are needed to reach the universal goals. Physical well-being can be broken up into comfort and stimulation. Comfort is the absence of negative physical phenomena like thirst, hunger and pain. Stimulation is pleasant physical feeling like sensory and mental stimulation and physical effort. Social well-being can be broken up into status, behavioral confirmation and affection. Status is the relative ranking (on relevant criteria) compared with other individuals. Behavioral confirmation is positive feedback of other people on certain behavior that fit into the norms and values of others. Affection is love, friendship and support by other people. The goals in the Social Production Function (SPF) theory are hierarchically ordered. With the ultimate goals at the top, instrumental goals in the middle levels and activities and resources that are needed to successfully reach those goals at the lower levels. Lindenberg poses that, to a certain extent, lack of well-being in one category can be substituted by extra wellbeing in another one although for universal and higher level instrumental goals a minimum amount of well-being in all categories is need for good overall well-being. Furthermore physical well-being is harder to substitute with social well-being and vice-versa. If certain goals are easier to achieve then others individuals will prefer to pursue these instead of others that are harder to achieve (if they have at least a base amount of well-being in all categories). Multifunctional activities that achieve multiple goals at once are the most efficient way to achieve overall wellbeing (Ormel et al. 1996) and thus are highly beneficial for individuals to undertake.

### 2.2.3 Theory of cooperation

In the last two sections it was established that individuals are goal directed and that they strive to reach a certain level of physical and social well-being. There are many different ways to reach this goal and in this section we will look when this goal directed behavior might take the form of cooperation between people based on theories from the field of economic sociology.

We chose economic sociology to be the guide to explain how goal directed behavior can lead to cooperation because in a short review we found problems with the explanation of other fields of social science. Evolutionary psychology is unusable because evolutionary forces that shape cooperation do not differ from person to person and thus are not relevant when trying to explain differences between different communities. Classic economic and sociological theories are problematic because they either under socialize (economics) or over socialize



(sociology) behavior. Granovetter too recognized the problems in the two extremes of the spectrum and posed that: “*Actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy*” (Granovetter, 1985).

Economic sociologists assume that people will not always work together well because in some situations individuals profit from behaving in a selfish way and not cooperating. According to Raub and Weesie (2000) situations like this, which they call social dilemmas, can be influenced by the embeddedness of individuals in social structures (family, communities, their workplace, etc.), where embeddedness leads to cooperation despite the lower (short term) individual profits. They distinguish three forms of embeddedness namely embedding in time, institutions and social networks.

Firstly embedding in time means that individuals not only value the merits of a transaction (here broadly defined as all actions that are a trade-off between two or more parties with both costs and benefits for them) in the present but also possible future transactions with others. This is the reason that individuals will sometimes cooperate even though pure selfish actions would give them more profit in the short run. They do this because they are afraid of sanctioning by the other individual or group and losing out on valuable future outcomes. In this context the norm of reciprocity is important. This norm is shared by most individuals and basically means that individuals should repay in kind what another individual has done for them both positively and negatively. This norm thus gives an incentive to individuals to be “nice” and cooperate with others. Because a good deed will be repaid while failure to do a good deed risks a negative response. This norm works best under three conditions:

- Homogeneity, because shared norms, values, habits, etc. makes cooperation easier
- Small group, because it makes it easier to spot non-cooperating behavior and sanction it.
- Low fluctuation of membership, because it increases the possible time of interaction (shadow of the future) and thus the cost of non-cooperation.

Secondly embedding in institutions comes into play in situations where the norm of reciprocity works less well. These are situations where groups are: complex, heterogeneous, larger and have fluctuating membership. These conditions make it harder to detect deviation from the norm of reciprocity and thus harder to punish non-cooperators for their norm deviating behavior while also making it less certain or likely that good cooperative deeds will be repaid in kind. Because of these two reasons the norm of reciprocity loses its strength because the chance of being punished for selfish behavior is lower while the chance of being rewarded for cooperative behavior is also lowered. A solution for this is to embed social interactions in formal and informal rules that add rewards for cooperation and punish non-cooperation. This way self-interest will be better aligned with the group interest and cooperation will emerge more often. Examples of this can be: associations and religious institutions.

Lastly embedding in social networks plays a role. Individuals are not alone in the world but they are part of social networks of family, friends, co-workers, neighbors, acquaintances and other people which they might not know very well but with which they interact or have interacted in the past. This social network has two functions that stimulate cooperation through reputation. Firstly cooperation is stimulated because of the information function of social networks, through social networks individuals can learn about the cooperativeness of others. This way they can find people that have a reputation for their willingness to cooperate and also avoid people with a reputation of selfish and non-cooperative behavior (DiMaggio & Louch, 1998). Additionally cooperation is stimulated by the control function of social networks, through social networks non-cooperating actors can be sanctioned.

#### **2.2.4 Summary of overarching theory**

So summarizing the past three sections gives the following view of human behavior and cooperation:

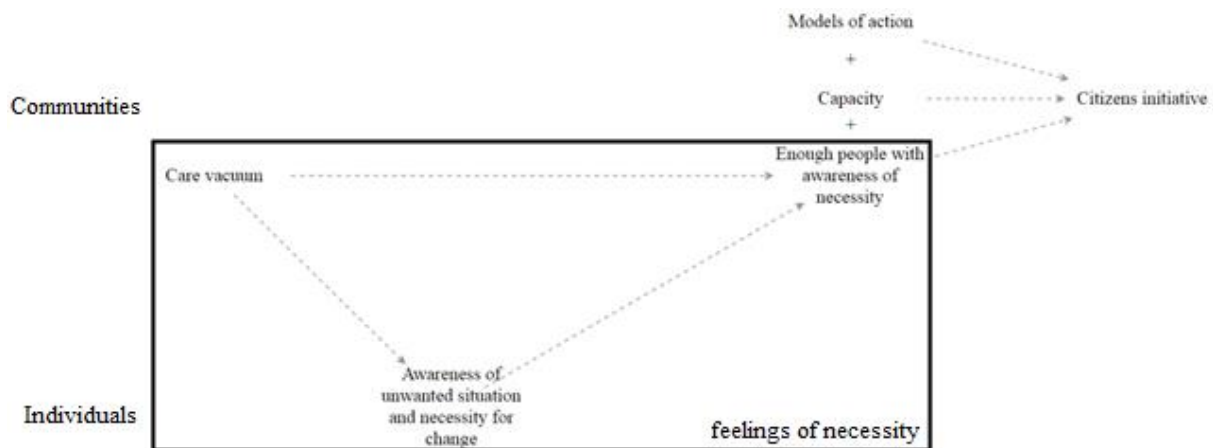
- Behavior of humans is goal-directed and boundedly rational
- Humans strive for overall wellbeing by ensuring physical and social well-being and their instrumental goals: comfort, stimulation, status, behavioral confirmation and affection
- Humans need a bare minimum of all instrumental goals for overall well-being but above that minimum can substitute a lack of one goal with additional well-being in another goal although physical well-being and social well-being are harder to substitute with each other
- Humans have agency to make their own decisions based on their bounded rational view of the world but they are also embedded in social structures that determine their behavior
- This embeddedness can help solve social dilemma's (situations where it would be better for short term profit of an individual to not cooperate with others) and increase cooperation

Based on these overarching theoretical conclusions hypotheses will be formulated in the next few sections.

### **2.3 Theoretical basis for hypotheses**

In this section the theoretical basis for hypotheses will be given and hypotheses will be formulated. The conceptual model that is used can be found below. More detailed explanations that focus on one of the three main influencers of the existence of a citizens' initiative (feelings of necessity, capacity and models of action) can be found in their own sections but first a short explanation of the model will be given.

Figure 2.2 - Conceptual model of theoretical basis



This model shows the basis for the hypotheses that will be formulated in the coming sections. The model has two levels: the level of the individuals (micro) and the level of communities (macro). Because we only have data on the community (macro) level we can only test the relations on community (macro) level. The relations on individual (micro) level are based on assumptions which are based on theory but will not be tested.

The model has two parts: the first part, in the black frame, shows how according to theory the feelings of necessity come about. The arising of a care vacuum on a community (macro) level leads to an increase in awareness of an unwanted situation and the feeling of a necessity for change on an individual level (micro level). A care vacuum is a situation in which both the government (national or otherwise) and market (private parties) can't provide health and welfare in a way that fits with the wishes of members of the community. This relates to the social production function of Lindenberg because that states that people strive for overall wellbeing and will, if the conditions to achieve wellbeing are poor, experience this as negative try to find way to improve these conditions. When a situation arise (like a care vacuum) in which their instrumental goals for welfare are endangered people will be more likely to act and try to improve their situation. When enough people in a community share this feeling this can aggregate to a shared awareness of an unwanted situation and necessity for change on a community (macro) level. It falls outside of the scope of this research to quantify how much exactly enough people is. This shared feeling is pivotal for the existence of citizens' initiatives in a community. This links to the idea of economic sociology that peoples actions are influenced by the social structures they are embedded in. When people in a community have a feeling of necessity for change this will influence others in the same social structure. This shared feeling is not enough however.

Here is where the second part of the model (outside of the black frame) is important. Communities also need to have the capacity on a communal (macro) level to employ such initiatives and they need examples or experience with ways in which their actions can take shape in short called models of action. These models of action make them more likely to choose to canalize their shared feeling of necessity and their capacity for action into the specific form of a citizens' initiative instead of another form of action.

In the coming sections an explanation of these concepts will be given.

### 2.3.1 Feelings of necessity

Before people go out and tackle problems enough people in a community need to have a feeling of necessity to take action. There needs to be at least a perception of a necessity to take action, as a famous sociological theorem goes: “*If men define situations as real, they are real in their consequences*”(Thomas & Thomas, 1928). This is the case because people act in accordance with their perception of the situation which may dilate the true situation.

This feeling of necessity is felt by individuals. This micro level feeling of necessity for action is influenced by macro level conditions that can make a feeling of necessity for action higher or lower.

One of the situations that can heighten the feeling of necessity for action is when a healthcare and welfare vacuum, care vacuum for short, arises in a community.

When a care vacuum (a macro condition) arises one of the consequences can be that individuals recognize this vacuum and see this as an unwanted situation. They feel that their overall wellbeing is threatened by this vacuum as care and welfare are closely related to instrumental goals of overall wellbeing as stated in the social production function theory of Lindenberg (see 2.2.2). Because they see the current situation as unwanted they feel that the situation needs to be changed and their feeling of necessity for action is heightened. If enough people in a community have, at an individual (micro) level, the feeling that change is needed this aggregates towards a precondition for collective (macro level) action in a community. Other preconditions will be discussed in the next section. The felt necessity by enough people in the community is a *sine qua non* for the emergence of a citizens’ initiative because as said earlier in this chapter, humans do not change the way they do things, the status quo, unless they have a good reason (Bourdieu, 1985). As the feeling of need for action by individuals and the aggregate of this feeling on a community level is an important reason for the emergence of citizens’ initiatives in care and welfare and the existence of a care vacuum heightens the feeling of need for action in individuals we pose the following hypothesis:

***Hypothesis 1.1: In communities where a care vacuum exists, citizens’ initiatives in care and welfare are more likely to be present.***

A care vacuum can arise for different reasons. We distinguish these reasons and formulate hypotheses about them.

Firstly, increased demand for certain services can lead to a care vacuum because the original supply of care and welfare in an area is no longer enough to satisfy the new (increased) demand for care and welfare. This will lead to a situation where some people do not receive the quality and/or quantity of care and welfare that they need and want. Examples of this would be an aging population leading to more demand for elderly care without the supply of extra elderly care by government or market or an increase in chronic illness due to aging or other factors leading to more demand for care without extra supply from government or market.

***Hypothesis 1.1.1:*** *In communities where there is an increased demand for care and/or welfare citizens' initiatives are more likely to be present.*

Secondly, decreased supply of (health)care or welfare services can also lead to a care vacuum. This causes a situation where some people do not receive the care and/or welfare that they want and/or need. This decrease in supply can be the result of multiple factors. Budgetary cuts of the government, a redefined responsibility towards care and welfare delivery of the government, and budget cuts by private providers are a few. All these reasons can cause shortages in care and welfare provision and they can also increase the distance people have to travel to receive their care and welfare because the provision of these services decreases in their area and people have to go to larger towns and cities in their vicinity to get the services.

***Hypothesis 1.1.2:*** *In communities where there is an decreased supply for care and/or welfare citizens' initiatives are more likely to be present.*

Lastly a lack of fitting care and welfare provision can cause a care vacuum. In this situation there is enough care and welfare provision available in the area but the services that are available do not fit with the (new) population of this area. This mismatch of supply and demand can be caused by diverse preferences from a population that is heterogeneous and thus has differing wishes regarding care and welfare provision. Heterogeneity can be caused in a variety of ways some of which are: ethnic diversity due to migration and income heterogeneity due to an increasing gap between rich and poor.

***Theoretical hypothesis 1.1.3:*** *In communities where the preferences for care and/or welfare provision are more diverse, citizens' initiatives are more likely to be present.*

### ***Empirical hypotheses***

The theoretical hypotheses posed in the previous section are very broadly formulated to give a broad perspective on the causes of care vacuums and as a consequence of those, the feeling of necessity for action in a community and ultimately the presence of citizens' initiatives. These hypotheses are in this form hard to test. They will be operationalized by variables that indicate the concepts of the theoretical hypotheses, demand, supply and diverse preferences for care.

There are two concepts that influence the demand for care: percentage of chronically ill people and percentage of people above the age of 75. Chronically ill people and people above the age of 75 on average need more (health)care than the general public and they need it for a longer time because both "conditions" will not disappear. This increased demand for care can cause a care vacuum (if the demand is not met with adequate supply) and set in motion the scenario that is sketched in the conceptual model. This leads to the following empirical hypotheses:

***Hypothesis 1.2.1:*** *In communities with a higher percentage of chronically ill people citizens, initiatives in care and welfare are more likely to be present.*

***Hypothesis 1.2.2:*** *In communities with a higher percentage of people above the age of 75, citizens' initiatives are more likely to be present.*

Four concepts will be used that influence the supply of care. These variables are distance to healthcare services, change in distance to healthcare services, distance to general services, and change in distance to general services. Healthcare services are services like a general practitioners office or hospital and general services are services like a grocery store or library. The current situation gives an idea about the actual supply of healthcare in an area and the ease with which people in a community can access the services. This is important because when people experience difficulty to access the healthcare services they want/need, a care vacuum can arise and with it a feeling of need to change the current situation. The feeling of need can also arise when general (public) services, like schools, stores and libraries, are lacking in a community. The change in distance to care and general services is important because it gives an idea of the change in supply of care and general services. When care services disappear this can lead to a care vacuum because proper care can no longer be provided in this community itself. Traveling to healthcare services can be difficult, especially for vulnerable people that need it the most, so this aggravates the problem (De Vries et al, 2017). When general services disappear, this often triggers a strong reaction from citizens. This can be stronger than one would expect when considering the objective worth of the service or the level of services still present in a community because people are particularly loss averse (Tversky & Kahneman, 1992). This response can be a catalyst for action both to save/replace general services and start services in the sphere of care and welfare. As stated in earlier sections the perception of a situation is very important and the perception of a bad service supply can cause feelings of necessity to arise even if the absolute numbers of the current service supply are still good compared to the average. Considering this we formulate these hypotheses regarding supply and presence of citizens' initiatives:

***Hypothesis 1.2.3:*** *In communities where the distance to healthcare services is higher citizens' initiatives in care and welfare are more likely to be present.*

***Hypothesis 1.2.4:*** *In communities where the distance to general services is higher citizens' initiatives in care and welfare are more likely to be present.*

***Hypothesis 1.2.5:*** *In communities where the distance to healthcare services has increased over the years citizens' initiatives in care and welfare are more likely to be present.*

***Hypothesis 1.2.6:*** *In communities where the distance to general services has increased over the years citizens' initiatives in care and welfare are more likely to be present.*

For the diverse preferences hypothesis one concept will be used: the percentage of people with a migration background in an area. People with a migration background have other preferences compared to the population without one. This is the case for both western (Heikkilä & Ekman, 2003; Galanti, 2014) and non-western people with a migration background (De Wit et al. 2002; Galanti, 2014).

***Hypothesis 1.2.7:*** *In communities with a higher percentage of people with a migration background citizens' initiatives in care and welfare are more likely to be present.*

### 2.3.2 Capacity

As said in the beginning of section 2.3 a need for action, in this case the feeling of necessity because of a care vacuum, is not enough on its own to cause action to happen. Apart from a felt need for action people need to be able to act on this feeling, they need the capacity for action. In this section multiple factors will be discussed that influence this capacity for action in the community. While this capacity of the community (macro level) is often the aggregate of capacity on an individual (micro level) we will focus on macro level capacity because this kind of capacity is needed for communal action to arise.

#### *Social capital*

Social capital is important for the understanding of differences between communities in the emergence of citizens' initiatives because it heightens the capacity of communities to take action. Social capital has multiple definitions broadly divisible in two categories which we will name the relational definition and the group-level definition. Researchers like Lin (1999) and Burt (2000) using the relational definition define social capital along the lines of "access to and use of resources embedded in social networks". Researchers using the group-level definition like Putnam (1993) see social capital as 'features of social organizations, such as networks, norms and trust that facilitate action and cooperation for mutual benefit'. In this study the group level definition of social capital will be used because this definition is focused on community level variables that explain how and why action and cooperation arises in a community or society and because citizens' initiatives in care and welfare can be defined as a manifestation of action and cooperation within a community.

According to Putnam social capital consists of two components: the social networks of civic engagement (actions to address public issues) and shared norms (of reciprocity). The degree to which these components are present can influence the chance a citizens' initiative in care and welfare emerges. Putnam also points out that social trust, while not part of the definition of social capital, is certainly a close consequence, and therefore could be easily thought of as a proxy for social capital (Putnam, 2001). These components (and social trust) are important to facilitate cooperation and collective action within a community because they provide answers to fundamental obstacles of cooperation voiced by public choice theorists (Ellickson, 1991; Ostrom et al., 1993). The obstacles that are identified are:

- (high) Initial costs of (collective) action discouraging cooperation
- Lack of trust between group members leading to calculating behavior and free rider behavior
- High cost associated with interaction between members that lack trust in each other because a lot of time, energy and finances is spent on monitoring the other or making insurances to combat the calculating behavior and free riding of others

First of all, communities are more likely to engage in collective action because social sanctions, norms and interaction in social networks increases the likelihood that people want to work together with each other because they foster trust which makes people more likely to cooperate. Furthermore, when people in the community interact with each other they have the possibility to identify that they have the same goals as other people in the community and

they can come together to reach these goals. Without this knowledge they would not cooperate because they would not have known about the other people in the community that strive to reach the same goals.

Secondly, the trust that arises from social capital (through repeated interaction and the knowledge that people share norms and values), influences whether or not people will want to share their resources with other people in the community. If individuals are not willing to share their resources, cooperation is unlikely to arise because cooperation always costs resources, like energy, time and finances, which benefit not only the individual that puts in the resources but also others. Social capital and the trust that arises from it leads to a situation where people will want to share their resources with other people in the community because they trust their 'investment' will be reciprocated somewhere down the line, if not from the person he or she helped then by another member of the community through generalized reciprocity (Baker & Buckley, 2014). Social capital also increases trust. This makes cooperation easier: the diffusion of knowledge and information becomes easier because individuals who trust each other are more willing to share knowledge and information. This makes cooperation easier because shared knowledge makes deliberation and collective action less prone to miscommunication and thus goals, means and methods can be communicated clearly.

Thirdly social capital reduces transaction and monitoring costs because mutual trust makes contracts, incurrences and legal services less necessary because both parties assume that the other party will not break their trust by acting according to self-interest. For this research this factor is less relevant because this mostly plays a role in economic transactions and most of the (small-scale) citizens' initiatives in care and welfare in the Netherlands have not a lot of significant economic transactions. This might change in the future if citizens' initiatives grow and become bigger organizations but presently it is not needed.

The previous leads to the following hypothesis on the effects of social capital on the presence of citizens' initiatives in communities.

***Hypothesis 2.1:*** *In communities with high levels of social capital, citizens' initiatives are more likely to be present.*

These components are important for the specific case of citizens' initiatives because citizens' initiatives can be seen as a form of (social) cooperation: action and civic engagement aimed to create mutual benefit. In the literature one concept is mentioned as something that can disrupt social capital. A high rate of residential turnover, especially people moving out of the community. A high residential turnover disrupts existing relationships and weakens interpersonal ties and discourages investment in relationships (social capital) in one's neighborhood because the investment will not be worthwhile if the population is very unstable (Sampson et al. 1997; Freudenberg 1986). Furthermore high residential turnover can prevent a community to come to a shared feeling of necessity of action because the perspective on problems of new inhabitants may differ from the old inhabitants. Because of these reasons the following hypothesis is posed about the effects of residential turnover on the presence of citizens' initiatives:



***Hypothesis 2.2:*** *In communities with higher levels of residential turnover, citizens' initiatives are less likely to be present.*

### ***Collective efficacy***

Collective efficacy was introduced by Sampson in 1997 with the meaning of: “*social cohesion among neighbors combined with their willingness to intervene on behalf of the common good*”. Originally used to explain variations in the level of crime in different neighborhoods arguing that high collective efficacy would lead to lower crime levels. In this context collective efficacy is used as a variable that can help to suppress deviant behavior that is not in line with group norms. In his paper Sampson et al. (1997) stresses that collective efficacy can be used also to provide positive change instead of only suppressing negative change but this aspect is not studied further. We assume that this theory can also be used to explain the level of willingness in a community to contribute to a common good unrelated to crime such as a societal good like care for elderly and disabled and want to test this here.

***Hypothesis 2.3:*** *In communities with high levels of collective efficacy, citizens' initiatives are more likely to be present.*

The capacity of a community to take action also depends on the availability of people that have the time and resources to act and feel the need to do so. One group that has both the time and resources to do so is people between the age of 65 and 75, “the younger elderly”. Firstly in this age range many people lose resources and opportunities to fulfill well-being goals for several reasons: they become mostly inactive in the labor market (loss of opportunity for status acquisition) this happens after their pension at 65 (now 66/67), lose friends, family and partner (loss of opportunity for behavior confirmation and affection) and have more difficulty with physical activities (loss of opportunity for stimulation). To compensate individuals will look for a way to substitute the harder to attain goals with others and gain them from another source. A citizens' initiative might provide this. Leaders and volunteers in the citizens' initiatives can gain status from the work they do for the citizens' initiative. Working together with likeminded people to make the citizens' initiative a success can provide in behavior confirmation and affection. This links back to the social production theory of Lindenberg that sees the fulfillment of well-being goals as driving force behind human behavior and states that goals that are hard to reach will be substituted (where possible) by others.

Also very important is the fact that they not only have the feeling of necessity towards voluntary work (at citizens' initiatives) they also have the capacity to do the voluntary work especially when compared to people aged 75 years and older. Firstly the decline of mandatory activities like work and care for kids make it possible for more people in this age range to undertake other activities and earlier research seems to suggest that quite a significant group uses some of this time to perform voluntary work under which the running of citizens' initiatives also falls (Wilson, 2000). They perform voluntary work aimed at care more often than the general population although this is also true for the age range of 45 to 65 (Arends & Flöthe, 2015). Secondly they have the physical capacity to do the work. In the Netherlands the life expectancy without moderate or serious illness is around 71-73 years of age (Stoeldraijer et al. 2012). This leads to the following hypothesis:

***Hypothesis 2.5:*** *In communities where the percentage of people that are aged between 65 and 75 is higher, citizens' initiatives in care and welfare are more likely to be present.*

Education level is also likely to influence the capacity of a community to take action and starting a citizens initiative. One of the reasons for this is that higher educated people are more likely to volunteer as both national (Arends & Flöthe, 2015) as international research has shown (Smith, 1994) among other things because, they have a higher level of empathy, are more self-confident (Brady et al 1995, Rosenthal et al 1998) and they have a higher sense of civic responsibility (Putnam, 1995). This higher level of volunteering will lead to a situation where it is easier to take action as a community because it is more likely that people will be willing to take part in this action.

***Hypothesis 2.6:*** *In communities where the percentage of people with higher education is higher, citizens' initiatives in care and welfare are more likely to be present.*

We have now established that in order for communal action to take place a certain number of people in a community need to have a feeling of necessity for change because the current situation is perceived as unwanted. They need this feeling to consider challenging the status quo and take action to tackle the (perceived) unwanted situation. Furthermore there must be a certain level of capacity for action in the community so the felt need for change can be translated into (meaningful) action. In the next section we will talk about how models of action can influence the form this action takes and how it influences the ability to take action in a community.

### **2.3.3 Models of action**

When people recognize a lack of (fitting) care and welfare in their community, they have different options to deal with this problem. They can go to the government for aid or complain about the fact that the problem exists, they can try to ignore the problem and but they can also take initiative themselves and try to tackle the problem. In the previous sections we identified some factors that might influence people to take initiative themselves but when they do take initiative this can take many forms. How do individuals and communities choose what form it will take? Below we will explain how the existence of one form of organization and solution to a problem (in this case a citizens' initiative) might lead others to adopt the same strategy and thus also start a citizens' initiative.

Organizations have many forms with differing rules, legal forms and statutes. Organizations do not exist in a vacuum, they interact with their environment and organizations around them. People aspiring to start an organization look around and share, take over or imitate ideas from each other (Aldrich, 1999). In fact one of the earlier and most well-known citizens' initiatives in the Netherlands, care cooperative Hoogeloon imitated its organizational form from a cooperative in Sweden and the care cooperative in Austerlitz in the Netherlands copied the organizational form and statutes from Hoogeloon (van Beest, 2014). When an organizational form is often used it is more likely to be copied because organizations strive for self-preservation and often used forms are (perceived as) being more successful at self-preservation (Aldrich, 1999). When looking for solutions people are more likely to see solutions they can copy that are used in areas geographically close to themselves because they

are more likely to know about them and are better able to collect enough information to copy them. This leads to a situation where people looking to create an organization are likely to copy successful examples and they are more likely to copy successful examples that are close instead of examples that are farther away. This is not to say that copying of organizational form does only occur locally (as we saw with Hoogeloon who went to Sweden) but as Tobler states: “*everything is related to everything else, but near things are more related than distant things*” (Tobler, 1970) so we argue that local action is more likely to be copied. This theory of diffusion of organizational forms leads us to the following hypothesis:

***Hypothesis 3.1: In areas where other active citizens’ initiatives are near, citizens’ initiatives are more likely to be present.***

Experience in a community in organizing themselves might also increase the likelihood of citizens’ initiatives emerging in a community. One way to gain such experience is through voluntary associations. These associations can take many forms from sport and music clubs to book clubs and brass bands. If there are many kinds of these associations active in a community it will be more likely that a citizens’ initiative will be established in the community (if the need is there) because of several reasons:

Firstly existing social ties formed through previous association can be used to more easily work together because trust and knowledge about each other make cooperation easier.

Secondly it fosters skills within the community that are helpful in the process of organizing communal cooperation and eventually citizens’ initiatives like leadership, communication and organizational skills which makes establishing an organization like a citizens’ initiative, which can be quite complex, possible.

Lastly and maybe most importantly it increases the likelihood that association in a citizens’ initiative (or any cooperative action for that matter) is seen as a viable or natural option to solve the problems of a community. It increases the normalcy of communal cooperation and establishes it as a legitimate model of action for members of the community. We therefore hypothesize that:

***Hypothesis 3.2: In communities where association density is higher, citizens’ initiatives are more likely to be present.***

Another factor that might influence the experience and legitimation of people in a community to start a citizens’ initiatives is through a higher membership of religious groups in a community. The shared religious identity can play a role in the emergence of citizens’ initiatives because it makes people more altruistic and prone to voluntary giving and pro-social behavior (Sharrif & Norrenzian, 2007; Bulbulia & Sosis 2011). This effect occurs even when people are not active in religious services or gatherings because the underlying philosophy of the religions primes them to display this behavior. While all religions have this priming the form it takes in a community is likely to differ between religions. Protestants are more likely to organize themselves in smaller exclusive groups compared to Catholics. This is because of their more strict ways of practicing their religion and higher level of theological exclusivity (Iannacone 1994; Merino, 2010) This means that the emergence of citizens’ initiatives is less likely in areas with big protestant communities because citizens’ initiatives

are bigger associations meant for the whole community and not for small subsections. Because of the nature of the Islamic faith of the Netherlands it is mostly practiced by minority groups and migrants. These groups are more likely to organize in exclusive ways in their own community compared to Catholics and thus have a less positive effect on the presence on citizens' initiatives. This is because of the same reason as protestants namely the more strict practicing of religion and higher levels of theological exclusivity. This goes against the hypothesis 1.2.7 about migrant communities that expects that citizens' initiatives are more likely to be present in communities with people with migration background because their presence leads to more diverse preferences in the community. While the presence of these people with a migration background increases the necessity for action. The religion of a part of the people with a migration background (Islam) causes them to be more exclusionary than Catholics and this lowers the chance that religion will provide experience that stimulates collective action (in the form of a citizens' initiative) for the entire community. So this limits the effect of the presence of people with a migration background in a community on the presence of citizens' initiatives somewhat.

**Hypothesis 3.3:** *In communities where the percentage of membership of religious groups is higher citizens' initiatives are more likely to be present, this is more the case for Catholics than for Protestants and Muslims.*

### 3. Methods

In this chapter we will explain what methods, data and operationalization's will be used to produce the statistical results that will be presented in the following chapter.

Some hypotheses that were described in the theory section of this thesis cannot be tested with the data that is available at this moment. These hypotheses are:

- **Hypothesis 1.2.1:** *about the effect of a higher percentage of chronically ill people*

This hypothesis cannot be tested in this paper because we have no data on the percentage of chronically ill people on the levels of postal code area or municipality.

- **Hypothesis 2.3:** *about the effect of higher levels of collective efficacy*

This hypothesis cannot be tested because we have no data on the level of collective efficacy on the levels of postal code area or municipality that sufficiently differentiated collective efficacy from concepts like social capital and social cohesion.

- **Hypothesis 3.2:** *about the effect of association density*

This hypothesis cannot be tested because we have no data on association density on the level of postal code area or municipality.

#### 3.1 Data

In this research two databases will be made and used for statistical analysis. A database with all citizens' initiatives in care and welfare in it and a database with data based on the locations (four digit postal codes) of these initiatives. First, in the next chapter, the methods for collecting the citizens initiatives data will be discussed. Then an explanation will be given about the geographical scale that is used to test the hypotheses. After that the operationalization and data collection for the data based on four digit postal codes will be discussed.

##### 3.1.1 Citizens initiatives

The first database will be used to answer the descriptive question posed in the introduction. The first inventory was completed in August 2016 by Vilans and includes ~320 initiatives. The second inventory was completed in July 2016 by University of Utrecht's professor Tine de Moor who's area of research is institutions for collective action and includes ~240 initiatives. These inventories will be combined to come to one more complete database. Included in the database will be:

- Name of the initiative
- Location of the initiative (four digit postcode)
- Municipality of the initiative
- Province of the initiative
- Coordinates of the initiative (Longitude, Latitude)
- Phase the initiative is in (active, not active)

The database of Utrecht University and Institutions for Collective Action is based on two earlier inventories (Dictus, 2013; Van Beest, 2014) which were done in cooperation with the Aedes-Actiz Knowledge Center for Housing and Care, this knowledge center also used its website and social media accounts to ask initiatives to come forward. The search strategy of this inventory was shaped by publications from knowledge institute Movisie and interests groups like the association for “*kleine kernen*” (small rural communities), platform for care cooperative development and cooperation platform Eindhoven. Furthermore participant lists of symposia about care cooperation’s) were used to find initiatives. The rest of the initiatives were found by searching the internet and using social media. National and especially local news was an important source of information. An internet search was undertaken using google, the exact search terms that were used are not documented. The definitions used by these studies are stated in chapter 2.1. The researchers of Vilans started in 2014 with a database about citizens’ initiatives in care and welfare using google to search for initiatives. Exact search terms were not documented.

After publication of the first database they received messages from other initiatives on their own accord. In 2015 and 2016 they updated the database in cooperation with Jan Sniijders of the citizens’ initiative “*Austerlitz Zorgt*” who has a lot of contacts with other initiatives especially in Brabant, Utrecht and Limburg. They also cooperated with “*Nederland zorgt voor elkaar*” the umbrella organization for citizens’ initiatives in care and welfare to find initiatives. Because of the way information for the databases has been collected it is likely that there is a selection bias in the data. The organizations that collect the data are based in Utrecht. So perhaps initiatives in Utrecht and the *Randstad* are more likely to receive attention because they are already in the network of the organizations. Initiatives in Brabant, Utrecht and Limburg might also be overrepresented because in these provinces umbrella organizations exist which bundle and share information regarding citizens’ initiatives in their province. Initiatives in other areas where this kind of organization is lacking and/or contacts between important actors is more limited like *Zeeland* and *Friesland* might be less likely to receive attention.

The databases are in part based on a convenience sample, making use of already available networks of important actors in the field. While this is a good way to gain access to initiatives, it can also lead to a selective sample of initiatives because initiatives in some areas and/or with a larger network are overrepresented because they are better known to the actors (named in the beginning of this chapter) that were consulted. We will use a new search strategy to test if selection is present in the data. Two tests will be done to find out how complete the databases of citizens initiatives in care and welfare are. The first will be checking what number and percentage of initiatives that are part of the database are also found on the internet while using the search strategy. The second measure is testing what number of new initiatives are found using the new search strategy. This can indicate the level of selection in the database. When found that a lot of initiatives from specific provinces are missing that can point to selection in the database.

The search strategy will go from broad to specific. We start by using the search terms mentioned in table 3.1 in google in combination with “care” and “welfare”. The first five

pages of google results will be used searching for citizens' initiatives that are already included in the dataset or are new. Then a province name will be added resulting in twelve different searches were also the first five pages of results will be used. The search terms in the table below will all be used separate from each other.

Table 3.1 - Search terms for search strategy.

---

Lokale kracht

Burgerinitiatief

Zorgcoöperatie

Burgerkracht

Actief burgerschap

Doe-democratie

---

Test 1: 134 initiatives of the total of 230 active initiatives were found by using the new search strategy, this is a success rate of 58,26%. This number is pretty high considering the fact that many citizens' initiatives have little presence online with quite a few not even having an own website or social media page. We noticed that a small number of citizens' initiatives provided most of the hits in this search strategy with four (Zorgcoöperatie Hoogeloon, Austerlitz Zorgt, 't Zorghuus Ysselsteyn, Lucas Community) being mentioned more than 50 times each while most others were only mentioned once or twice.

Test 2: Using this search strategy 17 new active initiatives were found that were not yet part of the database. Six of these new found initiatives are based in the province of Friesland which is interesting because only three initiatives in Friesland are part of the existing database. This might indicate that the existing database is selective with an underrepresentation of initiatives in the province of Friesland. We find 17 new initiatives which is not a lot, this might be because initiatives are hard to find via the internet and should be approached in another way or because there are not a lot of new initiatives in the Netherlands, we cannot be certain of either explanation.

Using our search strategy we found about 60% of the citizens initiatives in the database and 17 new ones with 6 of them in Friesland. The tests were aimed to see how well our search strategy worked and if the list of citizens initiatives is complete the search strategy seems to perform quite well considering the fact that many citizens initiatives are very small and do not have a big presence outside of their local community. The 17 new citizens initiatives that we found show that the current database was not yet complete and because of the fact that many initiatives are very small and often do not have a presence out of the local community we cannot be certain that the list of citizens initiatives is now complete after our search strategy.

Initiatives will be divided in three phases: active, not active, and stopped. In the statistical analysis only active initiatives will be used because a lot of factors can lead to an initiative not becoming active even if there are far reaching intentions to do so. We cannot be certain that intentions for initiatives lead to actual initiatives. Initiatives are considered active if they have given a “sign of life” after the 1st of January 2016. This sign can be a post on their website, a post on social media, a piece in a (local) paper or other news source. They are considered stopped when there is evidence that they stopped all activities this can be in the form of an online post, newsletter, local news source, etc. Not active are the initiatives that have not given a sign of life after January 2016 but also have not given evidence that they stopped.

### 3.1.2 Geographical scale

Four number postal code areas (from now on: postal code areas) were chosen as the level of measurement because it is small enough to be able to isolate population centers that are separate from bigger towns/villages this is especially important in more rural areas where small population centers can all be distinct communities while not having a big population. But it is also big enough big enough so that areas measure areas that can be counted as a community without splitting them in smaller pieces like smaller measurements would do.

### 3.1.3 Data to test the hypotheses

The dataset with data on municipality and postal code level will consist of relevant statistics of the area (four number postal codes) in which the initiative operates based on hypothesis posed in the last chapter. This includes the following data:

- Four digit postal code
- Municipal name
- Province name
- If a citizens’ initiative is active in this postal code area
- Percentage of people aged 75+
- Distance to care facilities (currently)
- Distance general services (currently)
- Distance to care services (change between 2008-2015)
- Distance to general services (change between 2008-2015)
- Percentage of people with a migration background
- Social capital
- Residential turnover
- Percentage of people aged 65-75
- Percentage of people with higher education
- Distance to other initiatives
- Religion (Percentage of different religious groups)
- Population (absolute)
- Urbanity
- Social economic status



The operationalizations of the context data are based on a few different data sources. Most are based on data of the Statistics Netherlands (CBS). The measure for social economic status (SES) of neighborhoods is based on data of the Netherlands Institute for Social Research (SCP). While the measurement for social capital is based on the "WoOn survey" of the Dutch Ministry of the Interior and Kingdom Relations and the CBS. Wherever possible data of the year 2010 on four number postal code areas is used but for some data only other years are available or more complete if this is the case they are used instead.

In the theoretical framework individual characteristics are included but in the statistical analysis these will not be used because there is no data available on the individual level.

### *3.1.2.1 Dependent variable*

<b>Name</b>	<b>Level</b>	<b>N</b>	<b>Missings</b>	<b>Range</b>	<b>Mean</b>
Presence of initiative	Postal code	4017	0	0-1	0.05

Because we have no reliable data on the exact timing of the emergence of initiatives the current presence in an area will be used as the dependent variable instead. Because of this there will be spoken about a relation between dependent and independent variables that heightens the chance that a initiative is present in an area and this heightened chance will be taken as a proxy for the chance of emergence of a citizens' initiative in an area.

The existence of a citizens' initiative for care and welfare in a certain postal code area is the dependent variable of this research. It is operationalized as follows: there is a citizens' initiative present in the database constructed by combining the Vilans and UU/ICA datasets and/or an initiative was found by employing the search strategy in the four number postal code corresponding with area.

### *3.1.2.2 Independent variables*

Independent variables have been categorized in either necessity variables, capacity variables or mode of action variables (as defined in the theory section). In some cases variables are important in multiple categories. When this is the case this will be addressed.

## Necessity variables

Name	Level	N	Missings	Range	Mean
Percentage of 75+ age	Postal code	4016	1	0-63.8	6.4
<u>Change in distance to general services:</u>					
Grocery store	Postal code	3843	174	1-5	3.0
Elementary school	Postal code	3825	192	1-5	3.0
High school	Postal code	3843	174	1-5	3.2
Library	Postal code	3843	174	1-5	3.2
<u>Change in distance to care services:</u>					
General practitioner	Postal code	3843	174	1-5	3.0
Pharmacy	Postal code	3843	174	1-5	3.1
Hospital	Postal code	3843	174	1-5	3.9
<u>Current distance general service:</u>					
Grocery store	Postal code	3846	177	0.5-11.6	1.5
Elementary school	Postal code	3845	177	0.5-10.3	1.0
High school	Postal code	3846	177	0.5-18.3	4
Library	Postal code	3846	177	0.5-17.5	3
<u>Current distance care service:</u>					
General Practitioner	Postal code	3846	177	0.5-11.9	1.8
Pharmacy	Postal code	3846	177	0.5-11.7	2.2
Hospital	Postal code	3846	177	0.5-72.5	9.4
Percentage of people with migration background	Postal code	4017	0	0-93.2	13.9

### Percentage of people at the age of 75 or over

The variable: "percentage of people at the age of 75 or over" is based on data of the CBS from 2010, measured on postal code area level.

### Change in distance to general services (between 2008-2015)

The change in distance to general services is based on data from the CBS. The CBS data is based on neighborhood data, a smaller measurement than postal code areas so we aggregated to postal code areas. We used data of the distance to care services in 2008 and 2015 to calculate the change in distance in kilometers (measured in a straight line) in this 7 year period to four different kinds of general services: a store for daily groceries, elementary school, high school and library and used this data to make a categorical variable. We did this because the distribution of the variables was far from normally distributed and had quite a few outliers when it was used as a continuous variable (see figure 8.1 in the appendix). The categories of the categorical variables are as follows: 1 is a big decrease of the distance to a service (between 7.5 and 1 kilometers), except for the change in distance to a library that had four outliers of a decrease between 33.48-23.41 kilometers. 2 is a moderate decrease of the distance to a service (between 1 and 0 kilometers). 3 is a small increase of distance to a service (between 0 and 0.5 kilometers). 4 is a moderate increase in distance to a service

(between 0.5 and 1 kilometers) and 5 is a big increase in distance to a services. The distribution of the categories is displayed in table 8.2 in the appendix.

3, a small increase in distance to a services, will be used as reference category because it is the biggest category in almost all cases, there were in the variables only a few cases where the distance remained the same so this category could not be used as a reference category.

### **Change in distance to care services (between 2008-2015)**

The change in distance to care services is based on data from the CBS. The CBS data is based on neighborhood data, a smaller measurement than postal code areas so we aggregated it to postal code areas. We used data of the distance to care services in 2008 and 2015 to calculate the change in distance in kilometers (measured in a straight line) in this 7 year period to three different kinds of care services: A general practitioner, a pharmacy and a hospital and used this data to make a categorical variable. We did this because the distribution of the variables was far from normally distributed and had quite a few outliers when it was used as a continuous variable (for an example see figure 8.2 in the appendix). The categories of the categorical variables are as follows: 1 is a big decrease of the distance to a service (between 7.5 and 1 kilometers), 2 is a moderate decrease of the distance to a service (between 1 and 0 kilometers). 3 is a small increase of distance to a service (between 0 and 0.5 kilometers). 4 is a moderate increase in distance to a service (between 0.5 and 1 kilometers) and 5 is a big increase in distance to a services (between 1 and 17 kilometers), except for the change in distance to a hospital that had 49 outliers between 17.00-25.88. The distribution of the categories is displayed in table 8.3 in the appendix.

3, a small increase in distance to a services, will be used as reference category because it is the biggest category in almost all cases, there were only a few cases where the distance remained the same (0) so this category could not be used as a reference category.

### **Distance to care services**

For the distance to general services data from the CBS is used. The CBS data is based on neighborhood data, a smaller measurement than postal code areas so we aggregated it to postal code areas. Data from 2015 was used and it measures the distance in kilometers (measured in a straight line) to three different kinds of care services: a general practitioner, a pharmacy and a hospital.

### **Distance to general services**

For the distance to general services data from the CBS is used. The CBS data is based on neighborhood data, a smaller measurement than postal code areas so we aggregated it to postal code areas. Data from 2015 was used and it measures the distance in kilometers (measured in a straight line) to four different kinds of general services: a store for daily groceries, elementary school, high school and library.

### **Percentage people with a migration background**

The percentage of people with a migration background was calculated using data from the CBS on population (in absolute terms) and the number of western and non-western people with a migration background. The population statistics and people with a migration background statistics are both from 2010 and on the postal code area level. We used these two

datasets to calculate the percent of people with a migration background by dividing the combined number of western and non-western people with a migration background over the total population and multiplying it by 100.

### *Capacity variables*

<b>Name</b>	<b>Level</b>	<b>N</b>	<b>Missings</b>	<b>Range</b>	<b>Mean</b>
Social capital	Postal code	2544	1473	-0.4-0.3	0.0
Residential turnover	Municipality	382	8	52.1-190.7	87.6
Percentage 65-75 age	Postal code	4017	0	0-50	8.8
Percentage of high education	Municipality	382	8	10-51	26.5

#### **Social capital**

To measure social capital we used the measurement that was used by (Waverijn, Groenewegen & de Klerk, 2016) that used five questions from the "WoOn 2012" survey to measure social capital. These questions are all about the social contacts between neighbors. The questions are:

Q.12.25: "I have a lot of contact with my direct neighbors", Q.14.26: "I have a lot of contact with other neighbors", Q.14.28 "People in the neighborhood interact with each other in a friendly way", Q.14.29 "The neighborhood is sociable, friendly and there is a lot of solidarity between neighbors", Q.14.30 "people barely know each other" The last question will be coded in reverse so it keeps the same direction as the others (higher score is higher social capital). This data is aggregated to postal code area level.

#### **Residential turnover**

Residential turnover is based on CBS data from 2015 on the municipal level. Residential turnover will be measured in relative terms (residential turnover per capita) as this is the most accurate measure for the impact the turnover has on a community, larger communities can take in/lose more people without it making a big impact while the impact of smaller migrations can be profound in small communities.

#### **Percentage of people aged 65 to 75**

The age range 65 to 75 is based on CBS data from 2010 on a postal code area level. We used the variables "percentage of people aged 65 or over" and "percentage of people age 75 or over" of the CBS and subtracted the second from the first to calculate the percentage of people aged between 65 and 75.

#### **Education level**

Education level is based on CBS data. It measures the percentage of people that have finished a study in higher education. Higher education in this case is a finished study at a university of professional education, college or university. This measurement is on the level of the municipality and from 2015.

### Mode of action variables

Name	Level	N	Missings	Range	Mean
<u>Religious type percent:</u>					
Catholic	Municipality	376	14	0.6-88.6	25.1
Protestant	Municipality	376	14	0.3-86.0	19.4
Islamic	Municipality	376	14	0.0-18.6	3.4
Non-religious	Municipality	376	14	2.2-84.2	47.2
Distance to other initiatives	Postal code	4017	0	0.2-58.5	9.7

### Religion

To measure religiosity results of the “*Enquête Beroepsbevolking*” (EBB) from 2015 of the CBS are used.

"*Basisvragenlijst - Blok Religie en Gezondheid Q: Gelovig*": Of what religious affiliation do you consider yourself to be part? [1. No religious affiliation 2. Roman-Catholic 3. Dutch Reformed 4. Reformed Churches, 5. Protestant Church Netherlands 6. Islam 7. Jewish 8. Hindu 9. Buddhist 10 Other]. This data is used to calculate the percentage of people that are religious of any kind and the percentages of three major religious affiliations, catholic, protestant and islamic. These percentages will be used to test if the type of religious affiliation influences relates to the presence of citizens' initiatives. This data is aggregated by the CBS on the municipal level.

### Distance to other initiatives

To measure the closeness of other initiatives the distance between a certain postal code area and the closest citizens' initiative will be used, if there is a citizens' initiative present in the postal code area the distance is to the closest other citizens' initiative. The distance is measured in kilometers (in a straight line) and is measured on a postal code area level.

### Control variables

Name	Level	N	Missings	Range	Mean
Urbanity	Postal code	4017	0	1-5	3.9
Population (divided by 10000)	Postal code	4017	0	0.05-2.8	0.4
Social economic status	Postal code	3533	484	-6.74-3.1	0.3

### Urbanity

In this study we control for urbanity because some research has suggested that there might be different reasons why citizens' initiatives emerge and endure between cities and rural areas (van Beest, 2014). Urbanity is based on the number of addresses per square kilometer (1 is urban which means more than 2500 addresses per km<sup>2</sup>, 2 is semi-urban which means 1500–2499 addresses per km<sup>2</sup>, 3 is intermediate urban-rural which means 1000–1499 addresses per km<sup>2</sup>, 4 is Semi-rural which means 500–1000 addresses per km<sup>2</sup>, 5 is rural which means up to 500 addresses per km<sup>2</sup>). The data is from the CBS from 2012 and is on the level of postal code area. For a distribution of the categories see table 8.4 in the appendix. In the analysis rural (5) will be used as the reference category.

## **Population**

In this study we control for the absolute number of the population in a postal code area. The population statistics are from 2010 and they come from the CBS. They represent the number of people that are registered at the population registry and rounded randomly to 5 to ensure privacy. They are based on postal code areas. In the statistical analysis this number will be divided by 10000 to make sure the coefficients are easier to interpret.

## **Social Economic Status (SES)**

Social economic status will be measured using SCP data from 2014 about the social economic status score of neighborhoods. The SCP uses four measures of social economic status:

- The average income in a neighborhood
- The percentage of people with a low income
- The percentage of people with a lower education
- The percentage of people that are unemployed

With factor analysis these measures were combined by the SCP into one score of SES. The scores standardized and display how much standard deviations they differ from the average in the Netherlands.

## **3.2 Statistical analysis**

To answer the explanatory question all hypotheses will be tested with quantitative methods using Stata 14 and MLwiN 3.0. To find out if the data is clustered the Moran's I will be calculated using R. This measure will tell us if citizens' initiatives are spatially auto correlated and thus clustered or if they are randomly distributed over the Netherlands, at least in a spatial sense. The clustering of citizens' initiatives in municipalities will be tested using MLwiN. The hypotheses will be tested using logistic multilevel analysis. This multilevel analysis will have three levels province, municipality, postal code area. While we have no variables on province level this level will be tested because earlier inventories have shown that there are big differences in the number of citizens' initiatives in care and welfare between provinces so it is interesting to see how much of the variance of presence of citizens' initiatives is on province level.

The multilevel analysis will be modeled in the following way: first the three levels of analysis are specified, province, municipality and postal code area. Then the control variables, that are all on postal code area level are added. In the next three models the variables are added in this order: necessity, capacity and models of action.

The modeling strategy for the logistic multilevel analysis is described schematically below:

M0: Presence of citizens' initiative = constant + hierarchical structure

M1: Presence of citizens' initiative = constant + hierarchical structure + control variables

M2: Presence of citizens' initiative = constant + hierarchical structure + control variables + necessity variables

M3: Presence of citizens' initiative = constant + hierarchical structure + control variables + necessity variables + capacity variables

M4: Presence of citizens' initiative = constant + hierarchical structure + control variables + necessity variables + capacity variables + models of actions variables.

M5: Presence of citizens' initiative = constant + hierarchical structure + control variables + necessity variables + capacity variables + models of actions variables.

M6: M4 stratified by urbanity: urban/semi urban compared to rural.

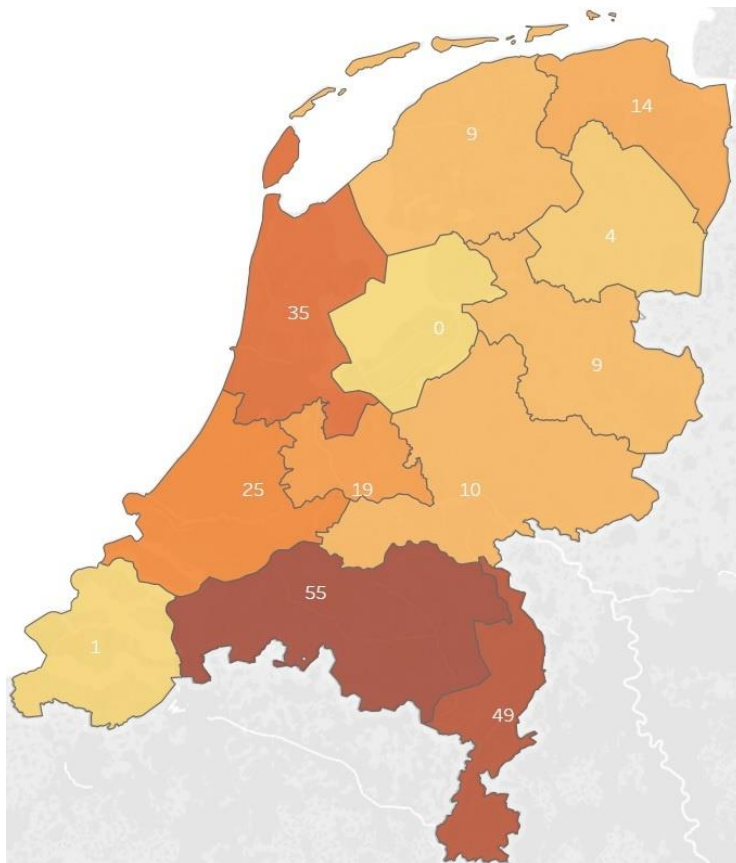
## 4. Results

In this chapter the results of the research and statistical analysis done in this study will be presented. First the results of the inventory of citizens' initiatives in care and welfare will be given and after that the statistical results of the quantitative study will be given.

### 4.1 Geographical distribution of citizens initiatives

In the introduction the question was posed: “*What is the geographical distribution of citizens' initiatives in care and welfare in the Netherlands?*”. To answer this question an inventory of citizens' initiatives in care and welfare was done based on two preexisting databases and extra research done to augment these databases. In total 230 active citizens' initiatives in care and welfare were found in the Netherlands using the criteria as described in the method section.

Figure 4.1 – Number of citizens' initiatives per province



As can be seen in figure 4.1, most initiatives are active in the south of the Netherlands in Noord-Brabant and Limburg (the redder the province the higher the number of initiatives. In fact a little under half (43%) of the citizens' initiatives in care and welfare can be found in these provinces. While not as widespread as in the south of the country, citizens' initiatives in care and welfare do exist in moderate amounts in the Randstad provinces of Noord-Holland, Zuid-Holland and Utrecht with 31% of the citizens' initiatives active in one of these provinces. The presence of 13 citizens' initiatives in care and welfare in the province of Groningen is also interesting considering it is the fourth smallest province in population while



still ranking above provinces with almost twice (Overijssel) or even three times (Gelderland) as many inhabitants. Flevoland and Zeeland are provinces where citizens' initiatives are not or barely active.

Table 4.1 shows something interesting, it shows that Limburg has by far the most initiatives per inhabitant, almost double the amount of number two on the list. We can also see that Noord-Brabant while having the most initiatives, has per capita less initiatives than Limburg and Groningen. Another interesting fact is that the provinces of Noord-Holland and especially Zuid-Holland have quite a few initiatives in absolute terms but have only moderate numbers of initiatives per capita.

Table 4.1 – Citizens initiatives per province per 100.000 inhabitants

Area	Initiatives	Initiatives per 100.000 inhabitants
The Netherlands	230	1.35
Limburg	49	4.38
Groningen	14	2.39
Noord-Brabant	55	2.19
Utrecht	19	1.48
Friesland	9	1.39
Noord-Holland	35	1.25
Drenthe	4	0.81
Overijssel	9	0.78
Zuid-Holland	25	0.68
Gelderland	10	0.49
Zeeland	1	0.26
Flevoland	0	0

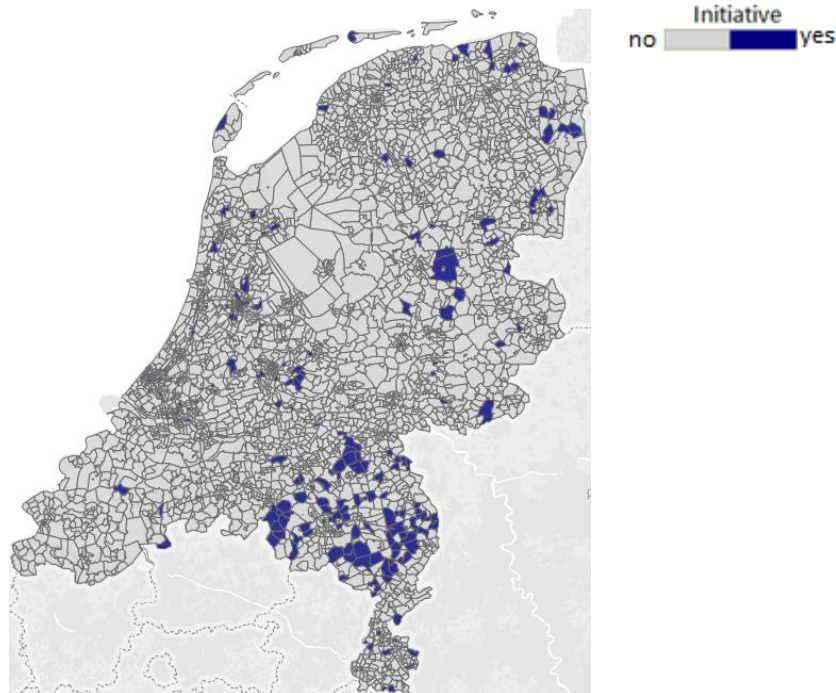
In table 4.2 we can see that citizens' initiatives are more often present in urban or semi-urban postal code areas than they do in non-urban postal code areas. This however is to a large extent due to the Randstad provinces Noord- and South-Holland and Utrecht where citizens' initiatives are mostly active around and in big cities like Amsterdam, The Hague and Utrecht. In all other provinces except for Friesland citizens' initiatives are in varying degrees more active in non-urban postal code areas. In Noord-Brabant only 3 of its 55 initiatives are located in urban or semi urban postal code areas despite the fact that urban and semi urban postal code areas make up more than 20% of the total number of postal code areas of the province.

Table 4.2 - Percentage of initiatives in urban/semi-urban postcodes and the difference with percentage of urban/semi-urban postcodes

Region	Number of initiatives in urban/semi urban Postal codes (total number of postal codes)	Percentage of initiatives in urban/semi urban postal codes	Percentage of postal codes that is urban/semi urban. (number of postal codes that is urban/semi-urban)	Difference between the percentage of initiatives active in urban/semi urban postal codes and percentage of urban/semi urban postal codes in a region
The Netherlands	67 (230)	29.1%	20.1% (901)	+9.0%
Drenthe	0 (4)	0.0%	0.9% (8)	-0.9%
Friesland	1 (9)	11.1%	5,0% (24)	+6.1%
Flevoland	0 (0)	0.0%	25.8% (23)	-
Gelderland	1 (10)	10.0%	13.9% (69)	-3.9%
Groningen	0 (14)	0.0%	8.4% (21)	-8.4%
Limburg	2(49)	4.1%	16.1% (45)	-12.1%
Noord-Brabant	3(55)	5.5%	20.0% (101)	-14.8%
Noord-Holland	25(35)	71.4%	40.8% (189)	+30,6%
Overijssel	0 (9)	0.0%	14.8% (43)	-14.8%
Utrecht	11(19)	57.9%	33.2% (73)	+24.7%
Zeeland	0 (1)	0.0%	6.5% (10)	-6.5%
Zuid-Holland	24(25)	96.0%	4.2% (295)	+41.8%

When we look at the presence of citizens' initiatives on a lower more detailed level we can see more clearly what the distribution of citizens' initiatives looks like. In the figure below initiatives are shown based on postal code areas.

Figure 4.2 – Citizens initiatives on postal code area level



In figure 4.2 some things can be seen that nuance the found distribution when looking at the level of provinces. Firstly we can see that a lot of citizens' initiatives are active in the same area of North-Limburg and the eastern parts of North-Brabant while being relatively scarce in the rest of these provinces (more so with Noord-Brabant then with Limburg). Furthermore we can see that most citizens' initiatives in the Randstad provinces of Noord-Holland, Zuid-Holland and Utrecht are largely active in the areas in and around big cities like Rotterdam, Den Haag, Amsterdam and Utrecht. This is a difference with Limburg and Noord-Brabant where initiatives are present in and around cities as well as rural areas. There is also a concentration in the east of Groningen with six initiatives within one postal code area of each other. The rest of the initiatives seem to be relatively evenly split over the provinces they are in without any special patterns.

When we look at the distance to the nearest (other) citizens' initiative in care and welfare, so not counting itself. We can see the distribution of citizens' initiatives even more clearly.

Figure 4.3 - Distance to nearest (other) citizens' initiative on postal code level

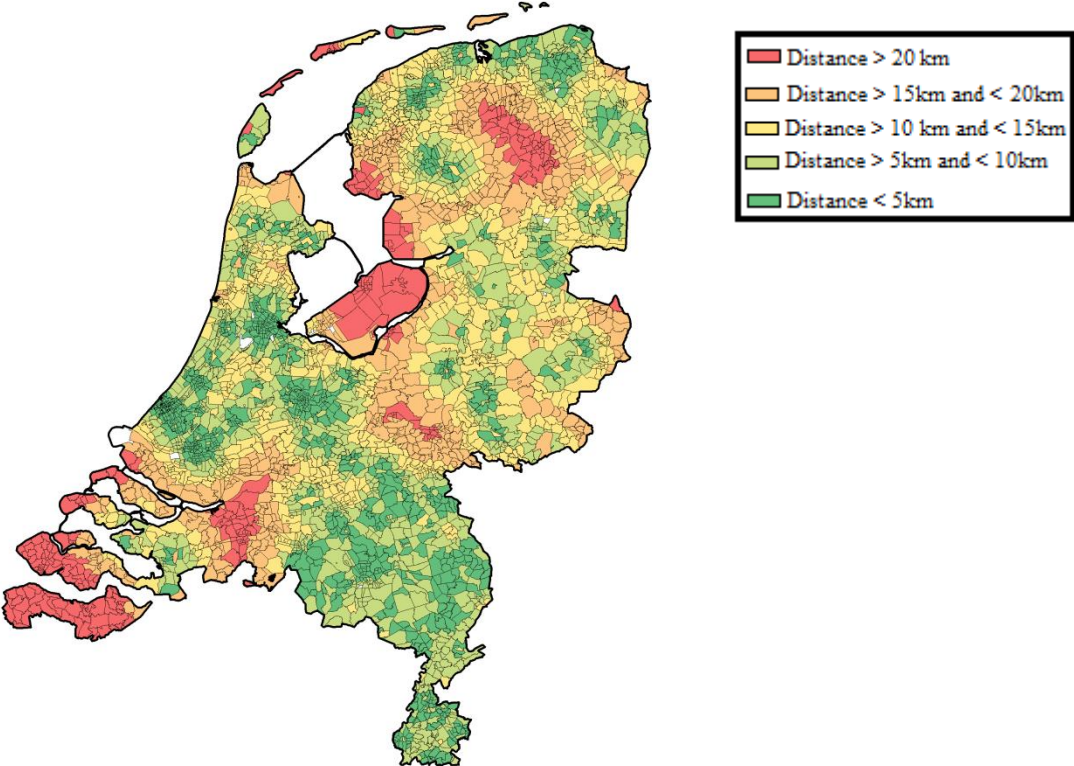


Figure 4.3 shows the distance from a postal code to the most nearby postal code. Red areas are more than kilometers away from the nearest citizens initiatives and this distance decreases in steps of 5 from red, orange, yellow, light green to dark green. Dark green areas are thus closest to (other) citizens initiatives. We can see a lot of red colored postal code areas in Zeeland, Flevoland, and Drenthe and some in Gelderland and Friesland as expected when considering the amount of initiatives that are present in these provinces but we can also see quite a few red areas in the provinces of Zuid-Holland and Noord-Brabant, provinces that both have a considerable amount of initiatives. The area where these provinces border Zeeland, the west of Noord-Brabant and south of Zuid-Holland citizens' initiatives are scarce and distances to the nearest citizens' initiatives long. We see a lot of dark green areas in Limburg, eastern North-Brabant and the *Randstad* as well as the north of the province of Groningen.

A statistical measure for the clustering of citizens' initiatives is Moran's I. This measure tells us if citizens' initiatives in care and welfare are clustered or not. The figures earlier in the section seem to suggest that there is indeed clustering going on, initiatives are present in higher numbers in areas. The results of the Moran's I test are presented in table 4.3.

Table 4.3 - Moran's I test for initiatives

Observed	Expected	Standard deviation	P value
0.0202	-0.0002	0.0008	0.0000

We can see that the value of the observed Moran's I is bigger than the expected value and that this difference is statistically significant with a p value of  $>0.001$ . The observed value of Moran's I of 0.0202 is rather small. Moran's I can take on values between -1 and 1. The values of Moran's I and its significance are influenced by the number of areas in the study. Considering we have a fairly big sample of 4017 areas this the finding of a small value of Moran's I that is still highly significant can be explained. We can based on the significance reject the null hypothesis of the Moran's I test (which is that there is no spatial autocorrelation in the values of the existence of initiatives in a postal code). However, from the small value of Moran's I the spatial autocorrelation is not seen as substantive. The conclusion is that citizens' initiatives in care and welfare are no more spatially clustered then expected if the spatial effects were random. This result can be explained because in a limited area in the Netherlands (eastern Noord-Brabant and Limburg) there is a concentration of citizens initiatives leading to higher values of Moran's I but in others (for example Zeeland and Flevoland) there are next to none leading to lower values of Moran's I. These two effects, when the whole of Netherlands is taken into account (almost) cancel each other out leading to a very low value of Moran's I.

To see if we could find clustering in provinces where a lot of citizens initiatives are active we calculated the Moran's I for the provinces Noord-Brabant and Limburg and these two provinces combined. The results of the Moran's I test however are comparable to the one above, significant but low values of Moran's I are found. The Moran's I values that are found are bigger than those found in the Netherlands (Limburg: 0.0473, Noord-Brabant: 0.0419, Combined: 0.0335) as a whole indicating that there might indeed be more clustering of citizens initiatives in care and welfare in Noord-Brabant and Limburg but they are still too low to come to that conclusion with certainty and we have to conclude that the citizens initiatives in Noord-Brabant and Limburg are no more spatially clustered then expected if the spatial effects were random. For the complete results see table 8.5 in the appendix.

## 4.2 Explaining the spatial distribution of citizens initiatives

In this section the results of the logistic multilevel analysis will be presented. All models will be presented in the same table. Not all results in the table will be discussed, only when they are significant or otherwise relevant. First some tests will be done to make sure the variables that are used in the multilevel analysis are of good quality and do not disrupt the results.

We tested for correlation between independent variables and urbanity and population. We did this because urbanity, operationalized as categories of number of households in an area and population are likely to be correlated. If we find any correlations that are very strong this might disrupt the results. So if this is the case one of the variables should be excluded. The Spearman's test for correlation that we did (see table 8.1 in the appendix) reveals that there is a strong negative correlation between urbanity and population,  $r_s = -0.7230$ . Additionally there are a few other correlations between independent variables found (only strong correlations are displayed). However, the correlations are not so strong that we need to remove any of the variables from the multilevel analysis.

Table 4.4 - Results of multilevel analysis with dependent variable of presence (1) or not (0) of a citizens initiatives

	M0 Constant	M1 control	M2 necessity	M3 capacity	M4 models of action
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
<b>Dep = initiative yes or no</b>					
<b>Fixed coefficients</b>					
Constant	0.051 (0.014)***	0.052 (0.015)***	0.035 (0.027)	0.004 (0.060)	-0.022 (0.074)
<b>Level: Postal code areas</b>					
Urbanity: urban (ref=rural)		-0.018 (0.020)	0.009 (0.026)	-0.004 (0.033)	0.003 (0.033)
Urbanity: semi urban		-0.065 (0.016)***	-0.037 (0.020)	-0.051 (0.026)*	-0.045 (0.026)
Urbanity: intermediate		-0.058 (0.015)***	-0.032 (0.018)	-0.046 (0.023)	-0.042 (0.024)
Urbanity: Semi-rural		-0.052 (0.013)***	-0.032 (0.015)*	-0.046 (0.019)*	-0.045 (0.019)*
Population / 10000		0.065 (0.014)***	0.058 (0.014)***	0.056 (0.017)**	0.055 (0.018)**
Social economic status		0.005 (0.004)	0.006 (0.005)	0.006 (0.007)	0.004 (0.007)
Percentage of 75+			0.000 (0.005)	0.001 (0.002)	0.001 (0.002)
Current distance GP			-0.009 (0.006)	0.007 (0.010)	0.007 (0.010)
Current distance pharmacy			0.013 (0.005)*	0.009 (0.008)	0.007 (0.008)
Current distance hospital			0.001 (0.001)	0.001 (0.002)	0.002 (0.002)
Current distance grocery store			-0.012 (0.005)*	-0.017 (0.010)	-0.015 (0.010)
Current distance elementary school			-0.013 (0.008)	-0.010 (0.018)	-0.009 (0.018)
Current distance high school			0.007 (0.002)**	0.007 (0.003)*	0.006 (0.003)*
Current distance library			0.000 (0.003)	0.001 (0.004)	0.002 (0.004)
Change in distance: GP big decrease (ref=small increase)			-0.040 (0.044)	-0.035 (0.071)	-0.042 (0.071)
Change in distance: GP small decrease			0.022 (0.012)	0.021 (0.015)	0.022 (0.015)
Change in distance: GP moderate increase			0.016 (0.017)	0.011 (0.026)	0.014 (0.026)
Change in distance: GP big increase			0.031 (0.026)	0.023 (0.044)	0.028 (0.044)
Change in distance: pharmacy big decrease (ref=small increase)			-0.017 (0.027)	-0.028 (0.036)	-0.033 (0.037)
Change in distance: pharmacy small decrease			-0.023 (0.012)*	-0.017 (0.015)	-0.016 (0.015)
Change in distance: pharmacy moderate increase			-0.002 (0.017)	0.016 (0.026)	0.017 (0.026)
Change in distance: pharmacy big increase			-0.025 (0.020)	-0.007 (0.030)	-0.001 (0.030)
Change in distance: hospital big decrease (ref=small increase)			0.117 (0.034)**	0.120 (0.041)**	0.117 (0.041)**
Change in distance: hospital small decrease			0.026 (0.022)	0.033 (0.026)	0.033 (0.026)
Change in distance: hospital moderate increase			-0.011 (0.011)	-0.012 (0.014)	-0.015 (0.015)
Change in distance: hospital big increase			-0.013 (0.013)	-0.004 (0.017)	-0.008 (0.017)
Change in distance: grocery store big decrease (ref=small increase)			-0.003 (0.027)	0.003 (0.044)	0.009 (0.044)
Change in distance: grocery store small decrease			0.002 (0.011)	-0.003 (0.013)	-0.004 (0.013)
Change in distance: grocery store moderate increase			0.019 (0.020)	0.039 (0.033)	0.037 (0.033)
Change in distance: grocery store big increase			0.020 (0.020)	0.043 (0.040)	0.033 (0.041)
Change in distance: elementary school big decrease (ref=small increase)			0.054 (0.062)	-0.037 (0.116)	-0.031 (0.116)

Change in distance: elementary school small decrease			-0.007 (0.012)	-0.007 (0.015)	-0.009 (0.015)
Change in distance: elementary school moderate increase			0.017 (0.021)	-0.006 (0.037)	-0.008 (0.037)
Change in distance: elementary school big increase			0.033 (0.029)	0.000 (0.068)	-0.006 (0.068)
Change in distance: high school big decrease (ref=small increase)			-0.029 (0.031)	-0.022 (0.039)	-0.017 (0.039)
Change in distance: high school small decrease			-0.013 (0.012)	-0.012 (0.015)	-0.013 (0.015)
Change in distance: high school moderate increase			-0.016 (0.012)	-0.022 (0.039)	-0.021 (0.017)
Change in distance: high school big increase			-0.027 (0.017)	-0.016 (0.024)	-0.017 (0.024)
Change in distance: library big decrease (ref=small increase)			0.000 (0.019)	0.009 (0.026)	0.011 (0.026)
Change in distance: library small decrease			0.010 (0.012)	0.009 (0.014)	0.011 (0.014)
Change in distance: library moderate increase			0.001 (0.013)	0.000 (0.019)	0.001 (0.019)
Change in distance: library big increase			-0.006 (0.014)	0.001 (0.019)	0.002 (0.019)
Percentage of migrants			0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Social capital				0.060 (0.059)	0.048 (0.060)
Percentage 65-75				-0.002 (0.003)	-0.003 (0.003)
Distance to other initiatives					-0.002 (0.001)
<b>Level: Municipality</b>					
Residential turnover				0.000 (0.000)	0.000 (0.000)
Percentage high education				0.001 (0.001)	0.001 (0.001)
Religion: catholic					0.001 (0.001)**
Religion: protestant					0.000 (0.001)
Religion: muslim					-0.001 (0.003)
<b>Random coefficients</b>					
Level: province variance	0.002 (0.001)*	0.002 (0.001)*	0.002 (0.001)*	0.002 (0.001)*	0.000 (0.000)
Level: municipal variance	0.006 (0.001)*	0.007 (0.001)*	0.007 (0.001)*	0.007 (0.001)*	0.006 (0.001)*
Units: province	12	12	12	12	12
Units: municipality	390	389	389	380	377
Units: postal code area	4017	3533	3445	2403	2387
Intra class correlation province	0.0024	0.0027	0.0027	0.0027	0.0000
Intra class correlation municipality   province	0.0018	0.0021	0.0021	0.0021	0.0018
-2*loglikelihood	-984.597	-538.456	-593.253	-32.39	-31.753
-2*loglikelihood change	-	446.141***	-54.797	560.863***	0.637

\*\*\* p <0.001, \*\* p<0.01, \* p<0.05

In model 0 only the dependent variable (the dichotomous variable if there is an initiative in the postal code area (1) or not (0), constant and levels (level 1: provinces, level 2: municipalities, level 3: postal code areas) are specified. The intra class correlation of municipalities nested in provinces is 0.0024, this means that 0.24% of the variance in the presence of a citizens' initiative in care and welfare in postal code areas is due to differences between province characteristics. The intra class correlation of postal code areas nested in municipalities is 0.0018 this means that 0.18% of the variance in the presence of a citizens' initiative in care and welfare in postal code areas is due to differences between municipal characteristics. This means that 99.58% of the variance of the presence of a citizens' initiative in care and welfare in postal code areas is due to the characteristics of the postal code areas themselves. While the variance on province and municipal level is significant it is also very small, this indicates that there is no spatial clustering of citizens initiatives in care and



welfare.

In model 1 the control variables: urbanity of area (categorical with five categories ranging from urban to rural, rural is reference category), population (divided by 10000) and social economic status are added. The results show that there is more or less the same chance of encountering a citizens initiative in urban (B: -0.018,  $p > 0.05$ ) and rural postal code areas and a significant lower chance to encounter them in semi-urban (B: -0.065,  $p < 0.001$ ), intermediate (B: -0.058,  $p < 0.001$ ) and semi-rural (B: -0.052,  $p < 0.001$ ) postal code areas. Furthermore they show that citizens initiatives the chances to find a citizens initiative are significantly bigger in more populous postal code areas (B: 0.065,  $p < 0.001$ ) and that the social economic status in an area does not significantly impact the chances to find a citizens initiative in that area (B: 0.005,  $p > 0.05$ ).

In model 2 the necessity variables: percentage of people aged 75 or over, distance care and general services, change in distance to care and general services (categorical between big decrease (1) and big increase (5)) and percentage of people with a migration background are added. Of the added variables five have a significant relation with the presence of a citizens initiative in a postal code area. Citizens initiatives are significantly more likely to be found in areas where the distance towards the nearest grocery store (B: 0.013,  $p < 0.05$ ) and high school (B: 0.007,  $p < 0.01$ ) is longer. The change to find a citizens initiative is also significantly more likely in an area where the distance to a hospital decreased considerably in the last 7 years (B: 0.117,  $p > 0.01$ ) compared to areas where it increased slightly and significantly less likely in areas where the distance to the nearest pharmacy decrease slightly compared to areas where it increased slightly (B: -0.023,  $p < 0.05$ ). In model 2 semi-urban and intermediate areas no longer differ significantly from rural areas in their chance that a citizens initiative is present. In semi-rural areas citizens initiatives are still less likely to be found (B: -0.023,  $p > 0.005$ ).

In model 3 the capacity variables: social capital, percentage of people aged 65-75, residential turnover and percentage of higher educated people were added. None of these variables have a statistically significant relation with the presence of citizens' initiatives in an area. The significance of the necessity variables: distance to a grocery store and change in distance to a pharmacy disappeared. The control variables that were significant in model 2 were still significant in 3. The chance to find a citizens initiative in a semi-urban postal code area is significantly less compared to rural areas.

In model 4, the final model, the model of action variables: distance to an initiative and membership of a religious group (catholic, protestant, islam) were added. Of these variables only the percentage of catholics had a significant relation with citizens initiatives, citizens initiatives are more likely to be found in areas with a higher percentage of catholics (0.001,  $p < 0.001$ ). Two of the necessity variables have a significant relation with the presence of citizens initiatives. Citizens initiatives are more likely to be found in areas where the distance to the nearest high school is longer (B: 0.007,  $p < 0.01$ ) and citizens initiatives are also more likely to be found in areas where the distance to the nearest hospital decreased considerably in the last 7 years compared to areas where it increased slightly (B: 0.117,  $p < 0.01$ ). Two control variables have a significant relation with the presence of citizens initiatives. Citizens initiatives are more likely to be present in areas that are more populous (B: 0.055,  $p < 0.01$ ) and less likely to be present in semi-rural areas compared to rural areas (B: -0.045,  $p < 0.05$ ). The

total variance between postal code areas with regards to the presence of citizens initiatives that this model explains is 0.43%.

We also tested if there were interaction effects between necessity variables and capacity, and models of action variables. This was not the case and no interaction effect resulted in a result that was statistically significant.

We tried to test if there were differences in variables that have a relation with the presence of citizens' initiatives in rural postal code areas compared to urban/semi-urban postal code areas. To test this we did two multilevel analyses one with only rural postal code areas and another with only semi-urban/urban postal code areas. We used semi-urban and urban for the second analysis because otherwise a lot of postal code areas in cities like Eindhoven, Maastricht and Almere would be omitted from the urban category while they are similar enough to warrant them in the analysis. In both analyses one province is missing because it does not have any rural (Flevoland) or semi-urban/urban (Drenthe) areas. We will only discuss the results of the last model of each of these analyses as that is the most relevant. In the appendix you can find the complete results of the analysis with rural areas (table 8.6) and the analysis with semi-urban/urban areas (table 8.7).

First the results of the analysis with rural areas are presented. In the last model four variables have a statistically significant relation with the presence of citizens initiatives in an area. In rural areas citizens initiatives are more likely to be found in areas where the percentage of people aged 75+ is higher (B: 0.013,  $p < 0.05$ ) and where the distance to hospitals decreased considerably (B: 0.246,  $p > 0.05$ ) or decreased slightly (B: 0.199,  $p < 0.05$ ) compared to areas where it increased slightly. In rural areas are less likely to be found in areas where the percentage of people aged 65-75 is higher (B: -0.017,  $p < 0.05$ ). The variance on province (intra class correlation: 0.000,  $p > 0.05$ ) and municipal level (intra class correlation: 0.0015,  $p < 0.05$ ) is low, on the province level it is also not significant. This means that almost all of the differences found between different areas with regards to the presence of citizens initiatives are thus based on variances in the characteristics of postal code areas. The total variance between rural areas with regards to the presence of citizens initiatives that this model explains is 29.8%.

The results of the analysis with semi-urban/urban areas are as follows: in the last model three variables have a statistically significant relation with citizens initiatives in an area. In semi-urban/urban areas citizens initiatives are more likely to be found in areas that are more populous (B: 0.072,  $p < 0.01$ ), the social economic status is higher (B: 0.029,  $p < 0.001$ ) and the percentage of people with a migration background is higher (B: 0.002,  $p < 0.05$ ). The variance on province (intra class correlation: 0.000) and municipal level (intra class correlation 0.000) is not significant so there are no differences in the chances that a citizens initiative is present in an area based on variance in characteristics on municipal and province level. All of the differences found between different areas with regards to the presence of citizens initiatives are thus based on variances in the characteristics of postal code areas. The total variance between rural areas with regards to the presence of citizens initiatives that this model explains is 7.87%.

Concluding this section we can say that we not found a lot of significant relationship between the presence of citizens initiatives in an area and the variables that we tested. In the general model we found that citizens initiatives are more likely to be found in areas that are more populous, more catholic, where high schools are further away and the distance to the nearest hospital has decreased significantly over the measured seven years and less likely to be found in semi-rural areas. Furthermore we found that almost all of the variance between areas is due to variance on the level of postal code area. The total explained variance of this model is quite low however with only 0.43% explained variance. We found that there are no significant interaction effects between necessity variables and capacity or models of action variables. In the multilevel analysis with only rural areas we found that citizens initiatives are more likely to be found in rural areas where the percentage of people aged 75+ is higher and where the distance to the nearest hospital has decreased slightly or significantly in the last 7 years and less likely in areas where the percentage of people aged 65 till 75 is higher. 29.8% of the total variance between rural areas was explained with this model, which compared to the general and rural/semi-rural model is quite high. In the multilevel analysis with only urban/semi-urban areas we found that citizens initiatives are more likely to be found in urban/semi urban areas when the areas are more populous, the social economic status is higher and there is a higher percentage of people with a migration background. This model explained 7.87% of the total variance between urban/semi urban areas. We will use the results found in these analyses in the next section to answer the research questions.

## 5. Conclusion & Discussion

In this chapter the main research questions will be answered based on the results found in the previous chapter

### 5.1 Answering the central questions

The aim of this study was to answer the three research questions posed in the introduction, a descriptive question, an explanatory question and a policy advice question.

#### 5.1.1 Descriptive question

The first, descriptive question was the following: “*What is the geographical distribution of citizens’ initiatives in care and welfare in the Netherlands?*” To answer this question data from the databases was analyzed using geographical mapping and statistical methods.

One finding is that citizens’ initiatives in care and welfare (henceforth: citizens’ initiatives) seem to be primarily distributed more in a few areas than others when citizens’ initiatives were mapped on province and postal code area level. With regards to the distribution of province level, citizens’ initiatives are especially numerous in the south-east (Noord-Brabant and Limburg) and the west (Noord-Holland, Zuid-Holland and Utrecht) of the Netherlands. With Noord-Brabant having the most (55) citizens’ initiatives within its borders (55) followed by Limburg (49) and Noord-Holland (35). Citizens’ initiatives are not present in the province of Flevoland and only one is present in the province of Zeeland.

However when looking at citizens’ initiatives per capita some questions can be raised about the prominence of citizens’ initiatives in the western provinces of North- and South-Holland. This is because per capita citizens’ initiatives are more numerous in the northern and south eastern provinces. Groningen while only having 13 citizens’ initiatives within its borders has per capita the second highest number of citizens’ initiatives and Friesland while only having 9, ranks fourth. Per capita citizens’ initiatives are still most numerous in the south eastern provinces Limburg and Noord-Brabant. Limburg has per capita the most citizens’ initiatives, almost double the amount of number two. Noord-Brabant, despite having the largest amount of citizens’ initiatives within its border is per capita the third province in regards to the number of citizens’ initiatives behind Limburg and Groningen. North and South Holland per capita only have the sixth (Noord-Holland) and ninth (South-Holland) most citizens’ initiatives active within their borders with South-Holland only ranking higher than Gelderland, Zeeland, where only one citizens’ initiative is active, and Flevoland, that has no active citizens’ initiatives within its borders.

On postal code level the distribution of citizens’ initiatives can be seen even more clearly. Citizens’ initiatives are predominantly distributed in three areas. Firstly many citizens’ initiatives are active in the east of North-Brabant and northern parts of Limburg. Secondly many citizens’ initiatives are active in and close to cities in the *Randstad* (metropolitan areas in Noord- Holland, South Holland and Utrecht. Lastly there is a concentration of citizens’ initiatives in north and east Groningen.

Another interesting finding is that in provinces with a percentage of urban or semi urban postal code that is lower than the national average, citizens’ initiatives are more likely to be situated in rural, semi-rural or intermediate postal code areas even when controlled for the percentage of urban/semi-urban areas that there are in this province. There is one

exception to this rule and that is Friesland but this difference is caused by one citizens' initiative that is active in an urban/semi-urban area of the nine citizens' initiatives that are active in the whole of Friesland making the difference small. For provinces with a percentage of urban/semi-urban postal code areas above the countries average (Noord-Holland, Zuid-Holland and Utrecht) the opposite is found. In these provinces the percentage of citizens' initiatives that are active in urban/semi-urban postal code areas is higher even when controlled for the percentage of urban/semi-urban postal code areas in these provinces.

Given these findings the descriptive question: *“What is the geographical distribution of citizens' initiatives in care and welfare in the Netherlands?”* can be answered as follows; Citizens' initiatives in care and welfare in the Netherlands are distributed, in large part in three different areas, The rural and semi-rural areas of eastern Noord-Brabant and the northern parts of Limburg, the urban and semi urban areas close to big cities in Noord-Holland, Zuid-Holland and Utrecht in an area called *‘The Randstad’* and, although to a lesser degree in the rural and semi-rural areas of north and east Groningen. Citizens are absent from the province of Flevoland and only one exists in Zeeland. The rest of the initiatives are distributed over the Netherlands in no apparent pattern.

### 5.1.2 Explanatory question

In this section the explanatory question *“How can the geographical distribution of citizens' initiatives in care and welfare in the Netherlands be explained?”* will be answered.

The results that were found that there are five significant relationships in the general analysis between the presence of citizens' initiatives and the tested variables. In areas with higher distance to high school, a big decrease in distance to the nearest hospital and a bigger percentage of catholics citizens initiatives are more likely to be present. The first finding provides some evidence for hypothesis 1.2.4 that poses that in areas where the distance to general services is higher likelihood that citizens initiatives are present in an area is higher because there is more need for especially welfare because the supply is lower. However because the other three of the general services have no significant relation with presence of citizens initiatives we have to reject that hypothesis, also the found relationship is very small meaning that the substantivity of the result is limited. The second result is the exact opposite from what we would expect. According to the hypothesis (1.2.5) a decrease in the distance to a care services like a hospital would lessen the feeling of necessity for change in a community which is assumed to lessen the chance that a citizens initiative would be present in a community. We see a rather large effect (in comparison to others) the other way around. In areas where the distance to a hospital decreased significantly the chance to find a citizens initiative does not decrease but instead increases it. We have no plausible explanation for this result and we could find no theory on the basis of which we could speculate about it. The last result provides some evidence for hypothesis 3.3 that poses that in areas with a higher percentage of catholics the likelihood that citizens initiatives are active in an area is higher because religion (and especially catholicism) provides experience that can lead to communal action. The relation while significant is very low in power so it is not substantive meaning that we will reject this hypothesis. The rest of the hypotheses are rejected as well because the results show no significant relation between the presence of a citizens initiative in an area and the variables that measure the concept of the hypotheses. There are two control variables that

have a significant relationship with the presence of citizens initiatives. These are population and the urbanity of an area being semi-rural. In areas that are more populous citizens initiatives are more likely to be present while in semi-rural areas citizens initiatives are less likely to be present compared to other grades of urbanity.

When only rural areas are analyzed (see table 8.6 in the appendix) some different results are found. In rural areas there are four significant relationships between the presence of citizens initiatives and non-control variables. In rural areas citizens initiatives are more likely to be present when the percentage of people aged 75+ is higher, there is a big decrease in the distance to the nearest hospital (compared to a small increase), there is a small decrease in the distance to the nearest hospital (compared to a small increase) and less likely when there are more people aged 65-75. The first result while significant does not provide evidence for the hypothesis (1.2.1) that in areas with more old elderly (75+) citizens initiatives are more likely to be present because the need for care and welfare is higher because the found relation is too small. The next two results relate to the same hypothesis (1.2.5) both that in areas where the distance to the nearest hospital (a care service) decreased over the last 7 years the chance to find a citizens initiative is higher. This is the exact opposite what we would expect from the hypothesis as a decrease in distance to a health services would lessen the necessity for action (in the form of a citizens initiative) and thus decrease the chance to find a citizens initiatives in areas where this has happened. The last result is that in areas where the percentage of people aged 65-75 is higher the chance to find a citizens initiative is lower. This is the opposite from what we would expect on the basis of hypothesis 2.5 because that a high percentage of people aged 65-75 is assumed to lead to a higher capacity for action in the community. The relation that was found, while significant is not very substantive because the relationship is weak.

When only urban/semi urban areas are analyzed we find very different relationships for rural areas. Here age and decrease in distance to a hospital does not matter for the presence of citizens initiatives. In urban/semi urban areas citizens initiatives are more likely to be found in more populous areas, areas where the social economic status is higher and in areas with a higher percentage of people with a migration background. The relationship with population was also found in the general analysis and this analysis shows that all other things being equal citizens initiatives are more likely to be found in big cities compared to smaller cities. The second finding is interesting because in the two other analyses no significant relation with social economic status was found. The third effect that was found is in accordance with hypothesis 1.2.7 that poses that in areas with a higher percentage of people with a migration background the chance to find a citizens initiative is higher because the preferences for care in this area are more diverse and thus the chance of a care vacuum is higher. While significant, the found relationship is not very substantive because it is very weak.

With the results that were found in these three analyses we can answer the explanatory question: *“How can the geographical distribution of citizens’ initiatives in care and welfare in the Netherlands be explained?”* The explanatory question can be answered as follows: the geographical distribution of citizens’ initiatives in care and welfare in the Netherlands is difficult to explain by variations in necessity, capacity or model of action variables on the level of postal code areas and/or municipalities. We found only a few relationships that were

both significant and substantive. In general citizens initiatives in care and welfare are more likely to be present in areas where the distance to the hospital has decreased, this is especially the case with rural areas where also a small decrease has a relationship with the presence of citizens initiatives. Furthermore citizens initiatives are more likely to be present in more populous areas and less likely to be found in semi-rural areas. In urban/semi-urban areas a higher social economic status in an area is positively related with a higher change on the presence of citizens initiatives in care and welfare in this area, this is not the case in areas of a different urbanity.

## 5.2 Discussion

No research is perfect, in this chapter we will discuss the found results, the validity of the found results, and in what way the research could be improved and recommend possible further research.

The results that were found do not match the expectations from the theory. We found that most variables that were thought to relate to the emergence/presence of a citizens' initiative had no statistically significant relation with it. We did have some interesting results we will discuss here.

We found that contrary to the hypothesis in areas where the distance to the nearest hospital substantially decreased over the measured seven years citizens initiatives in care and welfare were more likely to be present. In rural areas this relation was also found when the decrease was only small. This finding is interesting because it goes against our theory and a logical explanation for this finding is not available.

We found no significant relationship between social capital and the presence of citizens initiatives in any of the three studies. This might be due to the fact that the variable for social capital had a lot of missing values (1473), these missing values do not exclude any citizens initiatives in care and welfare from the analysis partly because most missing values are in very small postal code areas where citizens initiatives are less likely to be present because a smaller population is negatively related to the presence of citizens initiatives.

### 5.2.1 Validity

There are a few threats to the validity of the found results that will be discussed here.

There could be a threat with regards to external validity. This is the case because, although we tried to make sure our database of citizens initiatives in care and welfare was complete it could be the case that there are citizens initiatives missing from it. The fact that many citizens initiatives are small, have a very local character and are not present on social media or the internet in general makes it hard to do an inventory that is complete. The observed lack of relation between citizens initiatives in care and welfare and the variables used in this study could be due to a limited list of citizens initiatives with possible selection on size, geographical location or services they provide.

The variable social capital was operationalized in such a way that only the shared networks part of the definition of social capital was operationalized. The shared norms that are also an important part of social capital according to Putnam (1995) were not part of the operationalization because we had no data on this part of social capital. Because of the limited operationalization of the concept of social capital the relations that were not found might not accurately display the reality and thus create a possibility for a type II statistical validity error.

### 5.2.2 Limitations

A limitation of this study was that it was not possible to gather all the data from the same year and measurement level. In the case of differing years this might lead findings to differ from the actual situation although no big shifts in the variables that are used are expected so the differences should not be too big. In the case of differing measurement levels this leads to a situation in which differences between areas appear to be smaller in the results because they cannot be measured on the lowest (postal code) area and so variation on postal code level is not taken into account.

Another note on the research of this study is that the concept “citizens’ initiative in care and welfare” is very diffuse. The meaning can differ wildly based on what your source is. If one takes a broad definition of citizens’ initiatives the risk exists that dissimilar initiatives get lumped together as if they were comparable. While if one takes a narrow perspective one runs the risk of excluding initiatives that might be comparable to initiatives that are included in the study. We have tried to define citizens’ initiatives in care and welfare in such a way that was broad enough to include most comparable initiatives while excluding initiatives that were not comparable and also taking previous research into consideration. We do however not imply that our definition without flaws, it remains something to be critical about in further research and it also might partly explain why we did not find the relationships that we thought would exist.

Diversity of preferences, according to theory one of the reasons for a care vacuum to emerge was only operationalized by one variable the percentage of people with a migration background. This is a limited operationalization because there could be many more factors that can cause diversity in the preferences for care. Examples of this are:

1. Diversity in age, older people have very different preferences for care than people around the age of 40
2. Diversity in social economic or occupational class, blue collar workers have differing preferences of care compared to office workers.

### 5.2.3 Further research

We found that in provinces that have a percentage of urban/semi-urban postal code areas above the countries average citizens’ initiatives are overrepresented in urban/semi urban postal code areas (for example in Zuid-Holland 54.23% of the total postal codes in the province are urban/semi-urban while 96% of the citizens’ initiatives are in urban/semi-urban postal codes) while in provinces that have a lower percentage of urban/semi-urban postal codes (except for Friesland but this difference is minor) citizens’ initiatives are overrepresented in non-urban/semi-urban postal code areas. An interesting avenue for further research would be examining this difference and trying to explain why in more urban



provinces citizens' initiatives are prone to be active in more urban postal codes in proportion to the percentage of urban/semi-urban postal code areas while in more rural provinces citizens' initiatives are more prone to be active in more rural postal code areas.

This study aimed to explain the differences found in the geographical distribution of citizens' initiatives in care and welfare with quantitative research. To do this social, economic and demographic variables were used. One concept that was not used in this study because it fell out of the scope of this study is culture. We found that citizens' initiatives are present in bigger numbers in three main areas and that in some areas (Flevoland and Zeeland) no citizens' initiatives in care and welfare are active at all. It could be the case that there are cultural differences that cause this distribution instead of social, economic and demographic differences that were tested in this study. It would thus be a good idea to concentrate efforts of further research on the cultural aspects of different areas in the Netherlands and how these might cause differences in the presence of citizens' initiatives.

One of the more interesting and difficult to explain findings of this study was the fact that in areas where the distance to the nearest hospital decreased in the measured 7 years the chance that a citizens initiative would be present would be higher. This was contrary to our hypothesis and an explanation for this result is not readily available. Further research should be done to investigate if this finding can be replicated and if so what the possible reasons for this finding might be.

## 6. Policy advice

In this chapter the policy advice question: “*How can policy makers of public and private institutions stimulate citizens’ initiatives in care and welfare?*” will be answered.

One of the aims of this study was to provide policy makers in public and private institutions with knowledge about the factors that stimulate the presence of citizens initiatives in an area or at least have a positive relation with it and after this knowledge was given formulate an advise on how these factors could be best used to stimulate citizens initiatives in care and welfare in an area. Because most of the hypotheses that we posed on the basis of theory are not significant or substantive it is difficult to formulate such advice. What makes it even more difficult is that the results that were found that were both significant and substantive are either not well understood and contrary to the hypothesis (decrease of distance to nearest hospital is positively related with presence of citizens’ initiative) or not easy to influence (population, semi-rural areas, social economic status).

But the fact that no significant relations were found between the presence of citizens initiatives and variables that according to theory and most of the time also “common-sense” should have a relation with the presence of citizens initiatives is also a result that can help policy makers. It acts as a warning that policy makers should be careful when designing policy aimed at stimulating citizens initiatives in a certain area. They should be aware that there is a significant possibility that of the “obvious” or “common-sense” notions that a policy make might have about what stimulates the emergence of citizens initiatives might in fact not be true. In this research many factors that are often thought to stimulate communal action, voluntary work and citizens initiatives (in care and welfare or otherwise) like education level and social capital turned out to have no relation with it. So when a policy maker wants to stimulate the emergence of citizens initiatives (s)he should take extra care to look at the specific situation his areas is in and be aware that the influence of policy makers on the emergence of citizens initiatives might be limited.

## 7. Literature

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## 8. Appendix

Table 8.1 - correlation between independent variables using spearman's rho

Between (x - y)	N	Spearman's rho	P-value
Urbanity - Population / 10000	4017	-0.723	0.000
Urbanity - Hospital current	3846	0.706	0.000
Urbanity - High school	3846	0.740	0.000
Urbanity - Migrant background	4017	-0.759	0.000
Catholic - Protestant	3741	-0.782	0.000
Islam - Migrant background	3741	0.703	0.000
Age 65-75 - Age 75+	4017	0.703	0.000
Distance GP - Distance pharmacy	3846	0.721	0.000

Figure 8.1 – distribution of continuous variable change in distance to grocery store

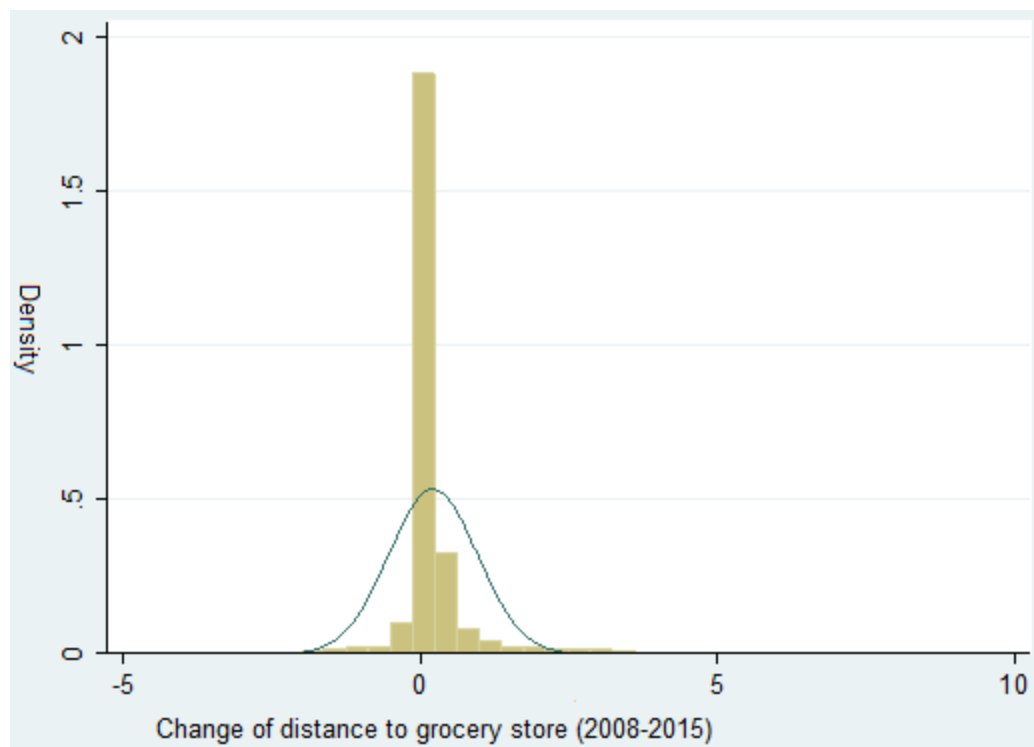


Table 8.2 – distribution of categories in distance change variables general services

<b>Grocery store</b>			
Category	Count	Percent	Cumulative percent
<b>1</b>	59	1.54	1.54
<b>2</b>	133	3.46	5.00
<b>3</b>	1196	31.12	36.12
<b>4</b>	10.49	27.30	63.41
<b>5</b>	1406	36.59	100.00
<b>Elementary school</b>			
Category	Count	Percent	Cumulative percent
<b>1</b>	15	0.39	0.39
<b>2</b>	470	12.29	12.68
<b>3</b>	3031	79.24	91.92
<b>4</b>	167	4.37	96.29
<b>5</b>	142	3.71	100
<b>High school</b>			
Category	Count	Percent	Cumulative percent
<b>1</b>	61	1.59	1.59
<b>2</b>	452	11.76	13.35
<b>3</b>	2390	62.19	75.54
<b>4</b>	566	14.73	90.27
<b>5</b>	374	9.73	100
<b>Library</b>			
Category	Count	Percent	Cumulative percent
<b>1</b>	179	4.66	4.66
<b>2</b>	532	13.84	18.50
<b>3</b>	2142	55.74	74.24
<b>4</b>	437	11.37	85.61
<b>5</b>	553	14.39	100

Figure 8.2 – distribution of continuous variable change in distance to GP

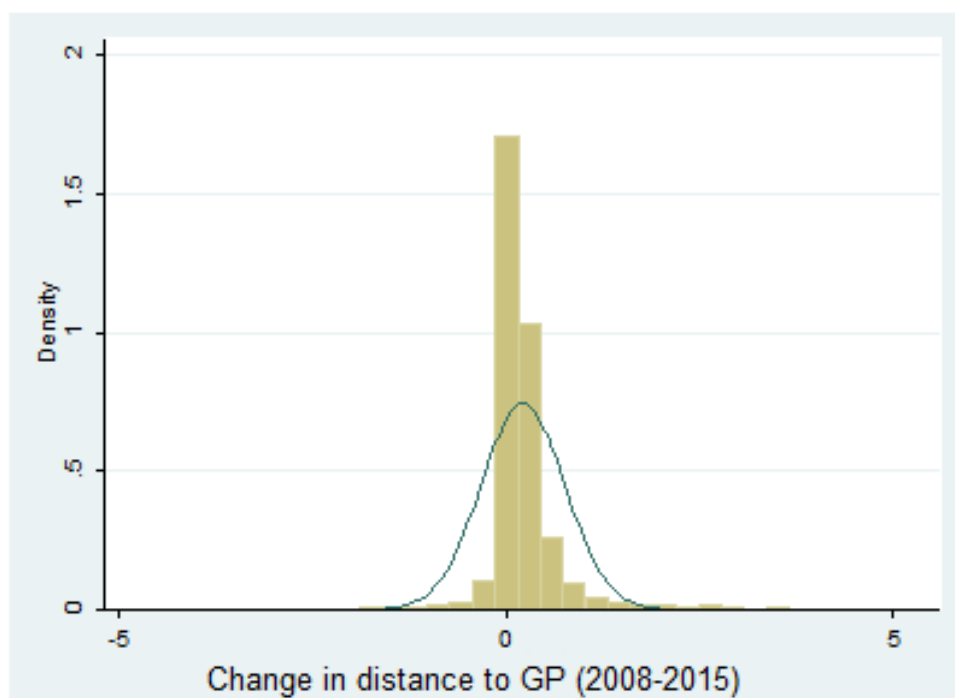


Table 8.3 – distribution of categories in distance change variables for care services

<b>General practitioner</b>			
Category	Count	Percent	Cumulative percent
1	38	0.99	0.99
2	514	13.37	14.36
3	2812	73.17	87.54
4	303	7.88	95.42
5	176	4.58	100.00
<b>Pharmacy</b>			
Category	Count	Percent	Cumulative percent
1	79	2.06	2.06
2	530	13.79	15.85
3	2601	67.68	83.53
4	310	8.07	91.60
5	323	8.40	100
<b>Hospital</b>			
Category	Count	Percent	Cumulative percent
1	59	1.54	1.54
2	133	3.46	5.00
3	1196	31.12	36.12
4	1049	27.30	63.41
5	1406	36.59	100

Table 8.4 – distribution of categories in urbanity

<b>Urbanity</b>			
Category	Count	Percent	Cumulative percent
<b>1 Urban</b>	364	9.06	9.06
<b>2 Semi-urban</b>	537	13.37	22.43
<b>3 Intermediate</b>	483	12.02	34.45
<b>4 Semi-rural</b>	577	14.36	48.82
<b>5 Rural</b>	2056	51.18	100

Table 8.5 – Moran's I test for Limburg, Noord-Brabant and both combined

Region	Observed	Expected	Standard deviation	P value
Limburg	<b>0.0473</b>	-0.0036	0.0073	0.0000
Noord-Brabant	<b>0.0419</b>	-0.0020	0.0093	0.0000
Combined	<b>0.0335</b>	-0.0012	0.0030	0.0000

Table 8.6 results multilevel analysis with rural postal codes

	M0 Constant	M1 control	M2 necessity	M3 capacity	M4 models of action
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
<b>Dep = initiative yes or no</b>					
<b>Fixed coefficients</b>					
Constant	0.005 (0.015)***	0.064 (0.02)***	0.002 (0.047)	0.106 (0.126)	0.149 (0.157)
<b>Level: Postal code area</b>					
Population / 10000		0 (0.038)	-0.003 (0.047)	0.053 (0.062)	0.052 (0.062)
Social economic status		-0.019 (0.012)	-0.008 (0.013)	-0.007 (0.023)	-0.01 (0.023)
Percentage of 75+			0.007 (0.003)	0.012 (0.006)	0.013 (0.006)*
Current distance GP			-0.012 (0.009)	0.002 (0.015)	0 (0.015)
Current distance pharmacy			0.019 (0.008)	0.003 (0.012)	0.002 (0.012)
Current distance hospital			0.002 (0.001)	0.004 (0.003)	0.005 (0.004)
Current distance grocery store			-0.013 (0.007)	-0.016 (0.017)	-0.015 (0.017)
Current distance elementary school			-0.018 (0.012)	-0.009 (0.033)	-0.01 (0.033)
Current distance high school			0.006 (0.003)	0.004 (0.005)	0.003 (0.005)
Current distance library			-0.004 (0.004)	-0.002 (0.006)	0.001 (0.006)
Change in distance: GP big decrease (ref=small increase)			-0.007 (0.055)	-0.045 (0.1)	-0.044 (0.1)
Change in distance: GP small decrease			-0.008 (0.028)	-0.03 (0.037)	-0.028 (0.037)
Change in distance: GP moderate increase			0.026 (0.032)	-0.023 (0.07)	-0.016 (0.07)
Change in distance: GP big increase			0.054 (0.042)	0.146 (0.101)	0.154 (0.102)
Change in distance: pharmacy big decrease (ref=small increase)			-0.033 (0.04)	-0.035 (0.053)	-0.041 (0.053)
Change in distance: pharmacy small decrease			-0.053 (0.029)	-0.043 (0.043)	-0.036 (0.044)
Change in distance: pharmacy moderate increase			-0.023 (0.031)	0.008 (0.065)	0.009 (0.065)
Change in distance: pharmacy big increase			-0.025 (0.032)	0.053 (0.054)	0.057 (0.054)
Change in distance: hospital big decrease (ref=small increase)			0.254 (0.082)**	0.274 (0.101)**	0.246 (0.102)*
Change in distance: hospital small decrease			0.092 (0.063)	0.23 (0.084)**	0.199 (0.086)*
Change in distance: hospital moderate increase			-0.015 (0.023)	-0.039 (0.035)	-0.043 (0.035)
Change in distance: hospital big increase			-0.032 (0.027)	-0.034 (0.044)	-0.034 (0.044)
Change in distance: grocery store big decrease (ref=small increase)			0.022 (0.039)	0.055 (0.076)	0.052 (0.077)
Change in distance: grocery store small decrease			0.018 (0.022)	0.034 (0.03)	0.033 (0.03)
Change in distance: grocery store moderate increase			0.055 (0.035)	0.187 (0.08)	0.184 (0.08)
Change in distance: grocery store big increase			0.033 (0.03)	0.05 (0.063)	0.044 (0.063)
Change in distance: elementary school big decrease (ref=small increase)			0.053 (0.206)	0.000 (0.000)	0.000 (0.000)
Change in distance: elementary school small decrease			-0.017 (0.026)	0.000 (0.043)	-0.006 (0.044)
Change in distance: elementary school moderate increase			0.043 (0.037)	-0.007 (0.080)	-0.004 (0.080)
Change in distance: elementary school big increase			0.066 (0.042)	-0.067 (0.110)	-0.055 (0.111)
Change in distance: high school big decrease (ref=small increase)			0.047 (0.070)	0.133 (0.108)	0.163 (0.108)
Change in distance: high school small decrease			-0.022 (0.031)	-0.039 (0.043)	-0.026 (0.043)

Change in distance: high school moderate increase				-0.027 (0.022)	-0.042 (0.036)	-0.034 (0.036)
Change in distance: high school big increase				-0.005 (0.03)	0.037 (0.051)	0.042 (0.052)
Change in distance: library big decrease (ref=small increase)				-0.017 (0.034)	-0.023 (0.05)	-0.017 (0.051)
Change in distance: library small decrease				0.03 (0.026)	0.042 (0.034)	0.045 (0.034)
Change in distance: library moderate increase				0.005 (0.026)	0.044 (0.048)	0.036 (0.048)
Change in distance: library big increase				0.011 (0.027)	0.041 (0.041)	0.035 (0.041)
Percentage of migrants				-0.001 (0.002)	0 (0.002)	-0.001 (0.003)
Social capital					0.191 (0.155)	0.182 (0.156)
Percentage 65-75					-0.016 (0.007)*	-0.017 (0.007)*
Distance to other initiatives						-0.001 (0.002)
<b>Level: Municipality</b>						
Residential turnover					-0.001 (0.001)	-0.001 (0.001)
Percentage high education					0.002 (0.003)	0.001 (0.003)
Religion: catholic						0.001 (0.001)
Religion: protestant						-0.001 (0.001)
Religion: muslim						-0.014 (0.019)
<b>Random coefficients</b>						
Level: province variance	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Level: municipal variance	0.007 (0.002)*	0.009 (0.002)*	0.007 (0.002)*	0.007 (0.002)*	0.005 (0.002)*	0.005 (0.002)*
Units: province	11	11	11	11	11	11
Units: municipality	94	93	93	85	84	84
Units: postal code area	969	785	777	368	366	366
Intra class correlation province	0.0024	0.0003	0.0024	0.0000	0.0000	0.0000
Intra class correlation municipality   province	0.0021	0.0027	0.0021	0.0021	0.0015	0.0015
-2*loglikelihood	-467.672	-253.036	-292.914	-123.353	-126.461	-126.461
-2*loglikelihood change	-	214.636***	-39.878	169.561***	-3.108	-3.108

\*\*\* P: < 0.001, \*\* P: <0.01, \* P:<0.05

Table 8.7 results multilevel with urban/semi-urban postal codes

	M0 Constant	M1 control	M2 necessity	M3 capacity	M4 models of action
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
<b>Dep = initiative yes or no</b>					
<b>Fixed coefficients</b>					
Constant	0.038 (0.009)***	-0.016 (0.015)	-0.058 (0.038)	-0.289 (0.063)	-0.299 (0.083)***
<u>Level: postal code areas</u>					
Population / 10000		0.082 (0.017)***	0.073 (0.02) ***	0.078 (0.022)***	0.072 (0.022)**
Social economic status		0.011 (0.005)*	0.024 (0.006) ***	0.034 (0.007)***	0.029 (0.008)***
Percentage of 75+			0.001 (0.002)	-0.003 (0.003)	-0.003 (0.003)
Current distance GP			-0.008 (0.023)	-0.019 (0.031)	-0.022 (0.031)
Current distance pharmacy			0.001 (0.018)	-0.004 (0.023)	-0.003 (0.023)
Current distance hospital			-0.005 (0.004)	-0.003 (0.004)	-0.002 (0.004)
Current distance grocery store			-0.020 (0.024)	-0.029 (0.031)	-0.021 (0.032)
Current distance elementary school			0.005 (0.023)	-0.025 (0.042)	-0.023 (0.043)
Current distance high school			0.006 (0.008)	0.003 (0.009)	0.001 (0.010)
Current distance library			0.005 (0.01)	0.01 (0.012)	0.009 (0.012)
Change in distance: GP big decrease (ref=small increase)			-0.169 (0.128)	-0.062 (0.228)	-0.06 (0.229)
Change in distance: GP small decrease			0.008 (0.020)	0 (0.021)	0.002 (0.022)
Change in distance: GP moderate increase			0.001 (0.037)	0.007 (0.045)	0.002 (0.046)
Change in distance: GP big increase			-0.013 (0.073)	-0.011 (0.096)	-0.002 (0.097)
Change in distance: pharmacy big decrease (ref=small increase)			-0.004 (0.137)	0.009 (0.230)	-0.024 (0.232)
Change in distance: pharmacy small decrease			-0.018 (0.019)	-0.02 (0.020)	-0.019 (0.020)
Change in distance: pharmacy moderate increase			0.031 (0.041)	0.043 (0.049)	0.046 (0.049)
Change in distance: pharmacy big increase			-0.035 (0.065)	-0.014 (0.081)	-0.012 (0.081)
Change in distance: hospital big decrease (ref=small increase)			0.091 (0.065)	0.088 (0.074)	0.085 (0.074)
Change in distance: hospital small decrease			0.037 (0.028)	0.034 (0.030)	0.032 (0.030)
Change in distance: hospital moderate increase			0.021 (0.020)	0.022 (0.022)	0.017 (0.022)
Change in distance: hospital big increase			0.032 (0.021)	0.019 (0.022)	0.015 (0.023)
Change in distance: grocery store big decrease (ref=small increase)			-0.046 (0.084)	-0.101 (0.107)	-0.091 (0.107)
Change in distance: grocery store small decrease			-0.004 (0.018)	-0.007 (0.02)	-0.004 (0.02)
Change in distance: grocery store moderate increase			0.041 (0.052)	0.067 (0.069)	0.059 (0.07)
Change in distance: grocery store big increase			0.045 (0.069)	0.016 (0.129)	0.008 (0.13)
Change in distance: elementary school big decrease (ref=small increase)			0.258 (0.114)*	0.103 (0.336)	0.110 (0.337)
Change in distance: elementary school small decrease			-0.008 (0.020)	-0.011 (0.022)	-0.013 (0.022)
Change in distance: elementary school moderate increase			0.051 (0.053)	0.06 (0.074)	0.063 (0.075)
Change in distance: elementary school big increase			-0.009 (0.090)	0.005 (0.156)	-0.002 (0.157)
Change in distance: high school big decrease (ref=small increase)			-0.049 (0.052)	-0.038 (0.055)	-0.038 (0.055)

Change in distance: high school small decrease		-0.012 (0.019)	-0.011 (0.020)	-0.014 (0.020)
Change in distance: high school moderate increase		-0.001 (0.025)	-0.004 (0.029)	-0.002 (0.029)
Change in distance: high school big increase		-0.012 (0.039)	-0.01 (0.045)	-0.003 (0.046)
Change in distance: library big decrease (ref=small increase)		-0.017 (0.042)	-0.024 (0.046)	-0.019 (0.048)
Change in distance: library small decrease		0.029 (0.019)	0.034 (0.021)	0.035 (0.021)
Change in distance: library moderate increase		-0.004 (0.024)	0.005 (0.026)	-0.001 (0.027)
Change in distance: library big increase		-0.004 (0.026)	-0.004 (0.029)	-0.009 (0.029)
Percentage of migrants		0.002 (0.001)**	0.003 (0.001)***	0.002 (0.001)*
Social capital			-0.009 (0.077)	-0.018 (0.078)
Percentage 65-75			0.011 (0.004)**	0.01 (0.004)
Distance to other initiatives				-0.001 (0.001)
<b>Level: municipality</b>				
Residential turnover			0.001 (0.000)**	0.001 (0.000)**
Percentage high education			0.003 (0.001)**	0.003 (0.001)**
Religion: catholic				0 (0.001)
Religion: protestant				0 (0.001)
Religion: muslim				0.005 (0.003)
				-0.299 (0.083)
<b>Random coefficients</b>				
Level: province variance	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Level: municipal variance	0.002 (0.001)	0.002 (0.001)	0.001 (0.001)	0.000 (0.000)
Units: province	11	11	11	11
Units: municipality	76	76	76	75
Units: postal code area	1193	1102	1064	963
Intra class correlation province	0.000	0.000	0.000	0.000
Intra class correlation municipality	0.0006	0.0006	0.0003	0.000
province				
-2*loglikelihood	-262.469	-189.129	-231.042	-159.244
-2*loglikelihood change	-	73.34***	-41.913	71.798***
				-4.049

\*\*\* P: < 0.001, \*\* P: < 0.01, \* P: < 0.05