Self-organizing Seoul

How social capital has its influence on collective action in an urban context

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Bachelor Thesis
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Preface

In the months I have studied hard to complete my bachelor Geografie, Planologie en Milieu. This has resulted in an end-product, the Bachelor thesis, with the title: “Self-organizing Seoul: how social capital has its influence on collective action in an urban context.” Because of the changes in urban planning, especially the challenges of collective action made me curious to choose this subject and I am glad that I could have worked on this topic.

To do the research there has been cooperated with other students of the Radboud University Nijmegen and of the Ewha Womens University Seoul. In cooperation with them the survey questions were chosen and helped me to translate the questions and collect the data in Eulji-ro Seoul. Without them it would have been impossible for me to collect so many data in the time I was there. Also the meetings at the Ewha Womens University helped me to get a better understanding of South Korean live and to link this information to my bachelor thesis. Also cooperation afterwards with the Radboud students helped me to analyze the data in the right way and we could help each other when needed. Besides that I want to thank Klaas Kresse for his support in Seoul, to couple us to South Korean students to collect the data and give some of his knowledge on his discipline. Last but not least I want to thank Erwin van der Krabben as my supervisor during this project and the support he has given me. His feedback, critical opinion and help with this product supported me in setting up the right research and delivering this end-product.

I wish you a pleasant time in reading my thesis,

Nijmegen, 16 July 2019

Job Wevers
Summary

In the last decades, urban spatial planning changed a lot. Where in the last century, most of the urban planning was decided by the government, and sometimes in collaboration with private parties, there has been something changed in the last years. Much more often the citizens want to be taken into account when it comes to urban planning, and in many spatial planning projects, these citizens already work strongly together with the government and other private parties. But it does not work out well every time. Because this is a booming business, not much research has already been done on this subject and it seems necessary that more investigation is needed on this subject. Difficulties are most often found in the way the government has to play a role in this collective planning projects. Because the government is used to take all of the control in these kinds of projects it is difficult for them to operate in a more advisory role. Besides that, there is still sometimes a lack of willingness of the participants of collective action, to really cooperate. Free-rider behavior is often a big problem in these projects. Research has been done about collective action, like the defined design principles of Ostrom and Olson’s logic of collective action, but a lack of research exists on collective action in an urban context and which factors play an important role in it. Also, research results on which measurements the government has to take in this new kind of spatial planning is lacking. In the literature study is found that social capital, the networks of relationships among people who live and work in a particular society, may be a factor that connects these governmental measurements and the final state of collective action. Because of these new kinds of developments in everyday-life, some new research is needed to bridge this knowledge gap and give solutions that could have some social relevance. In this research is tried to get new results on the relations just mentioned before. On the one hand the relation between governmental measurements and social capital and on the other hand the relation between the same social capital and collective action. Also, the role of distrust in the government is investigated as an interaction variable on the relationship between social capital and collective action. This research is executed in Eulji-ro, a neighborhood in Seoul. A special neighborhood because of its high percentage of entrepreneurs and low percentage of residents. Seoul is known for its history on collective spatial planning, but in contrast to western societies in the last decades, these kinds of projects reduced, mainly because of a lack of confidence in the government. Because of these special circumstances, it seemed ideal to execute this research especially at this place, with the research purpose:

“The goal of this research is developing more understandings about the influence of social capital of society on self-organizing spatial planning and how the government plays a role in these processes”.

With the following research question as the main subject:

What is the influence of social capital on collective spatial planning and which role has the government to play in setting up collective action?

Based on a literature study some existing background information is collected on this subject. First, some knowledge is collected about collective action, which problems exist and in which way these problems can be solved. Especially the design principles of Ostrom are used in this research, after changing them into useful principles for an urban context. Second, social capital is set out into different concepts: trust, trustworthiness, and networks. All of these concepts have their influence on the total amount of social capital. Finally, some information is gathered about the history of spatial planning in Seoul and potential new ways of planning for this city. In this way, particular outcomes of the survey could be better understood.

Based on this literature study the survey questions were set up. Dividing the questions into four categories: governmental design principles, social capital, collective action and distrust in
government. Thereafter the survey was conducted face-to-face in Eulji-ro, Seoul, with a total of 285 respondents. With the conducted data, analyses were executed. Two single linear regression analyses to get more insights on possible relations between governmental design principles and social capital and between social capital and collective action. The analyses gave the following results: there is significant evidence that governmental design principles have their influence on social capital and also that social capital has its influence on collective action.

Altogether there can be concluded that there is some coherence between governmental measurements, social capital, and collective action and if you want to achieve successful collective action these concepts needs to be taken into account. Also with the change in ways spatial planning is set up from government-based to a more collective based planning, the role of the government is not less important but it has changed. The government has to take its role as an advisory player in the field of planning very seriously because it has an impact on social capital and indirect on collective action. In follow-up research, this role can be further investigated, so that cooperation between government, private parties and citizens more often can be turned into a success.
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1. Introduction

1.1 Project framework
In modern society, spatial planning is more and more shifting from a top-bottom government structure to more bottom-up cooperation, in which different stakeholders like citizens, companies and government agencies work together to develop a certain area. The same is happening in Seoul, South Korea, a country with a rich history of public-private partnerships (Seoul Solution, 2014) and still known for this kind of cooperation. Nowadays the government of Seoul is putting in the effort to create self-organizing systems in which the role of the government is only pure facilitating. Planning is created by the residents of a neighborhood itself. But this self-organizing system doesn’t always work out well. To understand why it is first important to set out what self-organizing systems are about and by what success or failure is influenced. Self-organizing spatial planning systems are upcoming phenomena around the world. The focus in these systems lays in bottom-up cooperation, in which self-organization happens under specific conditions and in specific domains in collective action processes (Morcol, January 2014). Or in the words of complexity theorists: a process of autonomous development and the spontaneous emergence of order out of chaos – is called self-organization (Prigogine and Stengers 1984, Heylighen 2001, Teisman et al. 2009). When mentioning urban planning these meanings would then refer to situations into which citizens and/or other stakeholders contribute to urban developments out of their motivation and interests in specific actor-networks, if necessary to be facilitated (and not directed) by planners and governments (Boonstra & Boelens, 2011). But the difficulty is in these processes. How can you create a situation in which all of the actors are cooperating for the common good? After all, according to Olson’s free-rider theory individuals in large groups will choose to “free ride” and enjoy the benefits provided by others rather than cooperate, in light of the cost associated with the cooperative behavior (Olson, 1971).

In some domains, the problem is minimized because cooperation can take the form of mutually beneficial exchange. However most of the time this isn’t the case and functions modern market only well when supplied with an infrastructure of institutions and shared physical assets (Markussen et al., 2014). This supply is needed in clashes between private and collective interests, the domain of “social dilemmas”, the greater good is served by ceding some authority to the state which, for example, can fund public goods by collecting taxes (Hobbes, 1996 (1651)).

So, important in developing a self-organizing planning system is to create a situation in which private and collective interests don’t clash. In other words, serving the common good is equivalent to serving your private good or at least it is accepted that there is a difference between both, with the criteria that serving the common good will create a better private situation also. In that view choosing to free-ride isn’t profitable anymore. Research has been done on this subject and an important factor for cooperation seems to be that one’s actions will make a difference to collective efforts at achieving group goals (Van Zomeren et al., 2013). Also, the internal motivation of the group members engendered by the acceptance of group norms via social identity can play an important role (Akerlof & Kranton, 2005).

In creating a situation in which these factors are integrated you need to take into account the social background of society because people from various societies behave differently. This is because their beliefs, skills, mental models, values, norms, preferences, and habits have been inculcated by long-term participation in societies with different institutions (Richerson, Boyd, & Henrich, 2003). Besides that also the social networks and the people you trust are important (Ahn et al. 2007). A term to refer to these kinds of factors is social capital. Social capital consists of the resources a person has to
maintain his relations with others and is also broadly accepted as one of the main factors to be taken into account when operating in the spatial planning sector. Research is needed to bridge the gap between research done about collective action problems concerning self-organizing systems on the one hand and theories about the influence and importance of the social context of society on spatial planning on the other hand. To answer these questions, the willingness and conditions of possible collective action have been investigated in Eulji-ro, an area in Seoul that hasn’t been redeveloped yet and that is known for its shops and manufacturing places. Its entrepreneurial environment will possibly give extra-scientific results. Because much research has been done in neighborhoods with residents, but a lack exists of knowledge about the collaboration between entrepreneurs in developing a certain area. The city Seoul is chosen for its long history in collaborative planning and self-organization of urban transformation projects. This already started in the early decades of the 20th-century (Kresse and van der Krabben, 2019). But over the course of time, less and less kind of these projects have been set up. Partly caused by an increasing distrust in the government. Understanding institutional components that could tackle social cohesion problems and distrust in the government could possibly help in creating successful collective action. In this research this relation between institutional measurements, social cohesion and collective action will be investigated and discussed later on.

1.2 Research purpose
Problems exist in setting up collective action projects. Reasons why are sometimes still unclear, but social capital and the role of the government in stimulating these actions seems to play a part in it. The goal of this research is developing more understandings about this influence of the social capital of a society on self-organizing spatial planning and create a ground on which collective action problems in self-organizing spatial planning projects can be better understood. Besides that also the role the government plays in these self-organizing planning projects will be investigated. The measurements they can take and the influence of confidence in the government in achieving successful collective action will be the main objects. This will be done by a survey in Eulji-ro in Seoul, which is a neighborhood that is ready for redevelopment but a lack of trust in government is blocking the willingness of the inhabitants to cooperate with them. Information about these problems and how to solve them will be found by serving a survey to the inhabitants of this neighborhood and by doing a literature study on institutional measurements the government can settle, the historical background of planning in Seoul and the parts of social capital that exist. By finding results about this specific case this research can be used in a greater debate about self-organizing spatial planning, its relation to social capital and the institutional measurements the government can take to stimulate this process of collective action. This leads to the following research purpose:

“The goal of this research is developing more understandings about the influence of social capital of society on self-organizing spatial planning and how the government plays a role in these processes”.

1.3 Research questions
The goal of this research can be concretized into the following main question:

- What is the influence of social capital on collective spatial planning and which role has the government to play in setting up collective action?

This can be divided into the following sub-questions:

- What is meant by a collective action problem?
- Which institutional measurements exist to achieve successful collective action?
- What is meant by social capital?
- What is the influence of the historical background of planning in Seoul on self-organizing spatial planning?
- What is the influence of governmental measurements on social capital?
- In what way has distrust in the government its influence on the relation between social capital and collective action?
- What is the influence of social capital on collective action?
2. Theory

2.1 Theoretical framework
To answer the main question of this research it’s important to know which theories and background information exist about this subject. This will be mentioned in the upcoming chapter.

2.1.1 Collective action problems
First, before mentioning theories that try to tackle collective action problems it is important to know what collective action actually means. Straight forward it refers to actions taken together by a group of people whose goal is to enhance their status and achieve a common objective (Dowding, 2013). This seems like a process that doesn’t have to cost much effort to set up, but in reality, this process is much more complex than its meaning suggests. In reality, individuals often fail to work together to achieve some common goal. This is because if taking part in collective action is costly, then people sooner will not take part. So as Olson suggests in large groups people try to benefit from the efforts of the group instead of to cooperate, known as the principle of free-riding (Olson,1971). To tackle these problems of collective action two main theories are developed through the years.

2.1.1.1 Mancur Olson’s collective action theory
When Mancur Olson published ‘the logic of collective action’, it was ground-breaking for its time. The reason behind this was that Olson believed that a group should be treated as a group of rational individuals and not as an entity itself. Even if the group shares the same interests and all would profit from the collective activity. Main assumptions in Olson’s theory where thereby focused on methodological individualism and rational behavior. This theory is derived from the fact that from former theories it couldn’t be explained why a lack of organized action is performed by groups bounded with a seemingly common interest. Olson claimed that these older theories were not sufficient enough in why certain groups do organize themselves and others do not, even when the group members interests and goals were the same (Czech,2016). Olson derives from this fact that there is two premises worth of consideration: the size of a group and the mechanism of selective incentives. According to Olson in small groups, the incentives to free-ride are low, because it’s limited by social control and transparent effects of group action. In large groups, this is different and so they severe large difficulties to take up collective action. This can be divided into three major problems. First, the larger the group, the lesser the individual benefits. Second, large groups face difficulties to rightly distribute the costs of collective action and so create incentives for free-riding. And third, the collective goods will be supplied less efficiently than in small groups. To tackle these problems in larger groups there has to be created some selective incentives. This selective incentives, positive or negative, need to be created to eliminate free-riding and encourage individual actions. Olson notes clearly “no collective good can be obtained without some group agreement, coordination, or organization” (Olson, 1965, p.46). So to be successful as a large group, a well-organized established group would be the best. To summarize the previous statements, small well-organized privileged groups can achieve collective benefits at the expense of the rest of society. On the other hand, large latent groups face serious problems to organize themselves and prevent their members from free-riding. Collective interests and goals aren’t enough, success is also influenced by group size and selective incentives. According to this theory, it seems clear that individual freedom and providing public goods don’t match well with each other and in that way, if there are public goods to be supplied, the coercive state is the only actor to do it effectively. A critical point on this theory is that Olson’s analysis is based on a situation in which certain groups demand collective goods that are delivered by a third party, the state. One group’s gain will be another group’s loss. Olson didn’t take into account situations where people work together to work on a certain project like natural heritage
but also city planning. Elinor Ostrom’s theory, which will be mentioned next, can be seen as an extension on this theme. That theory includes other examples of group behavior.

2.1.1.2 Elinor Ostrom’s collective action theory

Olson offered the provocative assertion that no self-interested person would contribute to the production of a public good: "Unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common or group interests" (Olson, 1965, p.2). This argument is later on better known as the ‘zero contribution thesis’. Elinor Ostrom claims that this statement contradicts observations of everyday life: “After all, many people vote, do not cheat on their taxes, and contribute effort to voluntary associations. Extensive fieldwork has by now established that individuals in all walks of life and all parts of the world voluntarily organize themselves to gain the benefits of trade, to provide mutual protection against risk, and to create and enforce rules that protect natural resources” (Ostrom, 2000). Also, there is empirical evidence that government policy often more frustrates than facilitates (Montgomery and Bean, 1999). Free-riding that happens according to Olson in larger self-organized groups can be tackled down by resource investments in monitoring and sanctioning the actions of each other to reduce free-riding (Ostrom, 1990). Ostrom’s theory is formed to bridge the gap between on the one hand the theories that self-interested individuals will have extreme problems in coordinating collective action and the reality that in everyday life such cooperative behavior is widespread, although far from inevitable. Ostrom concluded from multiple research that when the users of a common-pool resource organize themselves to enforce their own basic rules, they tend to manage local resources more sustainably than when rules are externally imposed on them (Ostrom, 2000). An urban neighborhood can’t be one-to-one compared to a common-pool resource but has its similarities. After all most of the neighborhood is public ground that is limited and costly to exclude people from. Setting up rules and exclude people who don’t accept them is so a first step to the development of greater trust and reciprocity. In addition to that Ostrom (1990) has defined eight design principles of stable local common resource management:

1. Well-defined boundaries:

This principle is about the presence of well-defined boundaries around a community and the resource system this community uses. Defining the boundaries is important for a couple of reasons, it is easier to internalize the positive and negative externalities produced by participants in the community. In this way, people bear the costs of appropriation and receive some of the benefits of resource provision. Also, it clarifies what is meant by a particular resource system. Where may I go, and where may I not go? Following this rule free-rider problems can be tackled, because when a group of users can determine its membership (including those who agree to use the resource according to the agreed-upon rules and excluding those who do not agree), the group has made an important first step toward limiting access and developing greater trust and reciprocity (Cole & McGinnis, 2015). For example, research is done when it comes to the exclusion of outsiders from fishing space. They concluded that the main mechanism used by villagers to control their fishing effort is this exclusion of outsiders (Pinkerton & Weinstein, 1995). Important to avoid conflicts is that the boundaries that are set up are well known amongst the inhabitants of this specific area. When this is not happening confusion and aggression could easily arise. There are also complaints about this principle, so would it be too rigid and in many systems, fuzzier boundaries, social or geographic, are needed to facilitate more flexible arrangements between participants (Turner, 1999). In this critics who favor a looser conception of geographic boundaries note that they do not mean that the resources should be open access or completely boundary-free, but merely that they should be more
fluid than Ostrom (1990) conceptualizes them (Turner, 1990). Especially in an urban context, they are
difficult to hold. After all, effective exclusion is unlikely for practical reasons and may not be
desirable from a citywide perspective. Furthermore, it is to be expected that people other than the
inhabitants of the neighborhood itself may contribute to its management (Parker, 2011).

2. The appropriation and provision of common resources that are adapted to local conditions;

The second design principle is that the rules in use allocate benefits proportional to inputs that are
required. This principle contains two separate conditions that Agrawal (2002) recognizes. The first
condition is that both appropriation and provision rules conform in some way to local conditions. The
second condition that congruence exists between appropriation and provision rules. An example of
the first condition (congruence between rules and local conditions) would be rules about the
accessibility of water to work the land. In periods of scarcity, a less amount of water will be set as a
maximum than in periods with more water available. Some authors have also highlighted the
negative consequences that result when externally imposed rules do not match local customs and
livelihood strategies. For example, there has been an observation on the rules designed by the
Dhulikhel municipality imposing a total ban on the harvest of forest products while many of the
villagers use forest products like fallen twigs for firewood or leaf litter for animal bedding. In turn, the
effectiveness of monitoring was very low, and the forest had come under high extraction pressure
(Gautam & Shivakoti, 2005).

Then it’s time to turn to the second condition (congruence between appropriation and provision
rules). This condition is frequently described as congruence between costs made by users and the
benefits they receive via their participation in collective action. When individuals expect that they
will receive more benefits from participation than the costs they will make, obviously more collective
action will happen. To achieve such a situation this congruence between appropriation and provision
rules can play a big part.

3. Collective-choice arrangements that allow most resource appropriators to participate in the
decision-making process;

This principle is that most of the individuals affected by a resource regime are authorized to
participate in making and modifying the rules. This principle is set up to create a situation in which
the rules fit local circumstances and are considered fair by participants because they are set up by
the participants themselves. Especially when environments change over time, it is difficult for
officials to recognize this change and adapt by changing the rules. When the people living in this area
have the power to change, change will happen much faster and better adapted to the current
situation. In some cases institutions empower a local elite to make most of the collective-property
decisions, this results in mostly benefits for this small group which is not consistent with the, yet
mentioned, second principle. At the city level, it can be difficult who is affected and who not,
especially in urban spaces where a lot of people go to from everywhere every day. Logical would be
to limit the appropriators by who lives or works in a specific neighborhood.

4. Effective monitoring by monitors who are part of or accountable to the appropriators;

When setting up rules it is important that these rules are correctly followed. It is possible to rely
completely on trust and reciprocity but in most cases, this will not be enough. The main reason is a
lack of control on who does not comply with the rules. Organizing a system in which people that are
part of the community themselves gives a solution according to this principle. Monitoring mainly
consists of two aspects monitoring other resource users’ behaviors in the appropriation of the
resource and monitoring the resource itself (Tomás et al., 2010). By looking at people’s behavior you
can control if everyone is following the rules and by looking at the resources you can get a better
idea about how the cooperation is working out for the area. Combining these two functions, a large set of information can be given to the participants in the resource area. This can be used to tackle problems that are seen or to stimulate positive developments. As already mentioned it is important that the members of the monitoring committee are members of the community also. Because monitors may not perform satisfactorily if they do not directly benefit from improved resource conditions. So it may be important that monitors are accountable to those who most depend on the resource. On a city level, especially monitoring the resource itself can give some difficulties. For example, the amount of fishes in a fishing pool is easy to monitor, while monitoring an urban space is much more an opinion of the monitoring person himself.

5. A scale of graduated sanctions for resource appropriators who violate community rules;

When monitoring the community, according to principle four, there has also to be a measurement to tackle the problems which are seen while monitoring. Setting up sanctions could give a solution. Because it deters participants from excessive violations of community rules. Ostrom mentions on purpose of ‘graduated’ sanctions. This means the sanctions progress incrementally based on either the severity or the repetition of violations. These sanctions help to maintain community cohesion while genuinely punishing severe cases. When there is a lack of these sanctions, people easier try to free-ride or even obstruct the cooperation process. After all, there are no consequences for them.

6. Mechanisms of conflict resolution that are cheap and of easy access;

This principle is about setting up mechanisms to avoid that a group will be torn apart by internal conflicts of interest. These mechanisms are about conflict resolution, which could be turned in when a conflict is about to arise. In setting up these mechanisms it is important that they are cheap and of easy access, so they can be quickly turned in when problems come up.

7. Self-determination of the community recognized by higher-level authorities;

All the principles before mentioned are only powerful when they are recognized by higher-level authorities. Because when external government agencies challenge the rules set up by the community, problems could easily arise. So, good cooperation with higher-level authorities is very important. In cooperation with them, there can be set up an agreement under which circumstances the community can set up their own rules with the approval of external government agencies. On a city level, it is much more likely that there will be a more active presence of government enabling to overcome increased difficulties of meeting some of the criteria above and the additional uncertainty caused the contested nature of the resource. Challenge will be to make this cross-sector collaboration function well (Parker, 2011).

8. In the case of larger common-pool resources, organization in the form of multiple layers of nested enterprises, with small local CPRs at the base level.

This last principle is especially important for common-pool resources on a surface larger than local. In this case, before the distance, size, or context become too large for local compassion and caring, there must be added layers of governance that manage the local effects. In other words, there has to be created governance at low levels to maintain the larger system.

All these principles are especially based on situations with a common-pool resource. Think of forest, water supplies, or fish. Obviously, these are different circumstances than a collaboration between inhabitants of a metropolitan city like Seoul. But there are also a lot of similarities. Like in common-pool resources, also spatial planning is about cooperation between the participants in the area and a ‘resource’ that isn’t infinite, in this case, the physical living environment of a city. Holding this in
mind, these principles can also work in redeveloping cooperation projects in living and working environments. To understand this in a urban context a clear difference needs to be made to the design principles of Ostrom. In the sense of urban commons the role of the government is much more visible than when it comes to common-pool resources. Think of planning projects in a city-neighborhood. Because the government plays a bigger part in an urban context some principles are more useful than others. So, when measuring the design principles in an urban context, these differences needs to be taken into account. Anyway, Ostrom’s collective action theory and principles derived from that will give background on which collective action in Eulji-ro can be tested and where possible actions can be made on in the future. The effectiveness of these principles are closely related to the dynamics of a society, also named ‘social capital’, which will be discussed in the next chapter.

2.1.1.3 Formal and informal laws
We can define institutions in broad terms as prescriptions that specify what actions (or outcomes) are required, prohibited, or permitted, and sanctions authorized if the rules are not followed (Crawford & Ostrom 2005). Institutions are thus the rules of a game that people devise (North, 1990) and rule the results of human beings’ efforts to establish order and increase the predictability of social outcomes (Ostrom & Ahn, 2007). As mentioned before setting up rules is a key to successful cooperation in collective-choice processes like self-organizing systems. Rules can be divided into formal and informal rules. Formal rules are written laws, administrative regulations, court decisions, and so forth. They are written on paper and enforced by public authority. This kind of rules seems to be in general ineffective in collective decision systems and in solving collective-action problems (Fuller,1981; Taylor 1982). But in contrast to that a rule of law, a democratic atmosphere, and a well-structured government are valuable social capital for any society (Ostrom & Ahn, 2007). Within this democratic atmosphere, it is important for self-governing systems to develop their own informal working rules. Developing effective working rules creates a situation in which these systems are more likely to develop and preserve the networks that the participants have created and the norms they have adopted (Ostrom, 1999). Simply agreeing on an initial set of rules is rarely enough, it is needed to work out what these rules mean in practice, but this is a time-taking process. This includes monitoring the whole process and setting up sanctions for nonconformance and conditions under which exceptions are allowed. These informal sanctions seem to work also better than more costly formal sanctions (Markussen et al., 2014). As just mentioned developing a set of different measurements under specific rules will take time, but will eventually lead to a workable set of rules known to all relevant parties. The concept of institutions is highly related to the eight principles of Elinor Ostrom mentioned before. When researching the case of urban planning in Eulji-ro the eight principles of Ostrom could be used to understand the presence and effectiveness of these institutions.

2.1.2 Social capital
First, let start with the meaning of social capital. The term broadly refers to the factors that influence the effectiveness of a social group. Where capital always involves multiple forms, think of types of physical capital like roads, factories, and hospitals or human capital types like different forms of knowledge and personal skills, it is not surprising that we can assume that there are also multiple forms of social capital. Particularly important in the study of collective action are trustworthiness, networks and formal and informal rules or institutions (Ostrom & Ahn, 2007). In this chapter, these three variables will briefly be explained to better understand the influence of social capital in Seoul.
2.1.2.1 Trust and trustworthiness

Trust and trustworthiness are both important concepts when it comes to social capital. They have similarities with each other, but also a few differences can be recognized. First about trust. Trust involves risk-taking. You know when taking actions with another party, the other party could materially affect you, but knowing that there are still a lot of persons you share your ideas, concerns, and issues with. The reason why is that there is enough amount of trust to undertake actions with the other party. This is the case when on the one hand you have a high amount of trust in someone, so you will undertake even a high-risk action with this person, or on the other hand, the activities planned are not involved with a high risk. So you even undertake action when there isn’t a high amount of trust, after all, there is not much to worry about when things go wrong. To understand the concept of trust you need to know that trust can be understood at multiple levels (Fu et al., 2004). When you see trust as a characteristic or property of individuals, trust is a personality variable. The amount of trust is based on individual characteristics like feelings, emotions, and values (Wolfe, 1976). A second perspective is seeing trust as a collective attribute that can be drawn upon to achieve organizational goals. The third and final perspective treats trust as a public good facilitated and sustained by a social system. For example, Putnam (1993), has argued that trust within a community is what has made democracy work in northern Italy. The three perspectives of trust mentioned yet are interconnected. For example. On the individual level, you trust a person to do something based on what you know of his abilities and reputation not merely because he says he will do it. On the collective level, if you don’t trust the agency a person is working for, you may probably don’t trust the person himself as well as a result of that. Concluding, individuals consider the background, culture and social system of another when seeking to determine whether to trust him. In cooperative urban planning, trust can be very important. When you trust your neighbors your willingness to work together with them will be higher. Enough reason to find out the level of trust in Eulji-ro, after all, this could accelerate the process when existing but can also block the process when not.

In the sense of social capital, trustworthiness means something different than as it is known in regular language. Where the trustworthiness in regular language is also based on your social background with a person, does it in terms of social capital only refer to the trustee’s observable characteristics such as appearance, dress, gender, age language and so forth (Frey & Bohnet, 1996). By this, you abstract a trustor’s belief about a trustee’s motivation as an independent source of the trustor’s expectation of the trustee’s behavior. Doing this we emphasize that these intrinsic values are an independent factor for behaving cooperatively and reserve the trustworthiness primarily to refer to such intrinsic motivation (Ostrom & Ahn, 2007). So in a collective action situation, you can refer to trustworthiness when you want to refer to the characteristics of individual preferences. Also, habits or values could so be terms to describe trustworthiness. To understand when someone is trustworthy, you need to understand the term reciprocity. Reciprocity is an internalized personal moral norm as well as a pattern of social exchange which Ostrom defines as the involvement of a family of strategies in collective action situations including (1) an effort to identify who else is involved, (2) an assessment of the likelihood that others are conditional cooperators, (3) a decision to cooperate initially with others if others are trusted to be conditional cooperators, (4) a refusal to cooperate with those who do not reciprocate, and (5) punishment of those who betray trust. (Ostrom, 1998). According to this definition trust and trustworthiness are integral elements of reciprocity. An individual who abides by the norm of reciprocity is trustworthy. In the context of Seoul, it is important to know if the norms of reciprocity are followed well and if not, what measures could be implemented.
2.1.2.2 Networks

Networks are the second concept of social capital that needs to be discussed. Networks are the space in which information, support, and social control flow. So if you want to set up a collective action, there needs to be an overarching network in which this could happen. To achieve this you need to take into account that everyday life experience suggests that social networks may play a double-sided role in economic development and well-being. On the one hand, they are fertile ground for nurturing trust and shared values, that reduce monitoring costs and facilitate transactions. Also, it makes agents’ behavior more foreseeable causing an overall reduction of uncertainty and free-riding. However, networks can work in the opposite direction as well, named by Granovetter (1973) as ‘strong ties’ which are often considered as building blocks for relationships with broader social networks. Think of family members, close friends, and neighbors (Sabatini, 2009). Granovetter (1973) showed that a person’s close friends rarely knew more than that person did, so strong network ties served to replicate practice and preserve the status quo. To overcome these ‘strong ties’ it is necessary to invest in bridging and linking ties that could bridge gaps between different groups or individuals. In this way, the knowledge of one group of people can help another group and vice versa. Woolcock (2001) provided a useful distinction about this bonding and bridging networks: Bonding social networks have ties that connect people akin to others in a similar situation, such as family, friends, and neighbors. These close ties provide a sense of identity, affiliation, shared purpose, support, and information. While bridging social capital networks are about ties that connect people to others who are somewhat different. These distant, weak ties can span professional boundaries and facilitate access to new ideas, information and knowledge. So to understand the effectiveness of cooperation, nature, and quality of the existing networks could be very important. With the presence of many weak ties between the social groups in the neighborhood, information could easily be exchanged and could create a higher amount of trust to work with people you would not know without the bridging social networks.

Going further on that, in combination with trustworthiness also networks play their role in creating a norm of generalized reciprocity. According to Putnam and colleagues (1993), dense networks of social exchange are a crucial condition for the rise of the norm of generalized reciprocity. Information regarding a potential partner’s trustworthiness is crucial when trustworthy individuals try to initiate cooperation (Ahn et al. 2007). Besides that, existing dense social networks also encourage the transmission of information across individuals about who is trustworthy and who is not. In this way, trustworthiness and dense social networks are both an important factor in self-organizing systems and even have positive feedback on each other.

Concluding, social capital is not only created, but it can also be weakened, destroyed, strengthened, or transformed during the process of collective action. The combination of trust, trustworthiness and social networks can be influenced by the social context. Why collective action problems exist in Seoul could be explained by the existing combination of these factors or just the absence of one of them.

2.1.3 Planning structures in Seoul

To understand the development of institutions in Seoul it is important to know the historical background of planning. Today, Seoul is considered a leading and rising global city, which is the result of a large South Korean economic boom, population growth and urbanization rate (worlometers, 2019). Urban planning in this metropole can be divided into three periods. In times of rapid growth, land readjustment formed an important planning structure, mainly organized by the government. Since the 1980s growth stabilized which formed the basis for a change in planning structure. More projects were organized within the city boundaries and mostly set up by real estate owners. Since 2010 the Seoul government focuses more on regeneration of the city by facilitating bottom-up projects with a large influence on the residents. In this chapter, these three planning structures will
shortly be discussed. The goal is to understand the background of spatial planning in Seoul, this to understand better today’s thinking in Seoul about planning.

2.1.3.1 Land readjustment

Land readjustment is an approach that is commonly used in East Asian countries, especially Japan and South Korea. The world bank (n.d.) gives a clear explanation about this kind of urban planning: “Using this approach, the government pools or assembles the various privately owned land parcels in a given area and prepares a land-use plan for the overall area including designating spaces for public infrastructure and services as roads and open spaces. It then implements the plan and provides the necessary trunk infrastructure. At the end of the process, the government returns to each landowner a land parcel proportional to their original parcel but of smaller size (for instance, 50-60 percent of the original land parcel). Except that the new land parcel is of a higher value because it is nog serviced urban land. The government retains selected strategic land parcels that it auctions or sells at market rates for cost recovery of its investment in infrastructure and service delivery.” As you can see land readjustment can be a very useful instrument in urban regeneration projects involving private land and fragmented land ownership, in which you also engage the original residents and landowners as stakeholders. On the other hand, it is also beneficial for the government because it does not require a massive up-front investment to buy the land from the owners. All these things made it ideal for the regeneration plans in South Korea, where land readjustment is since the 1930s the dominating land policy in Korea, transferred by the Japanese who colonized Korea in this period. However, since the period of rapid urbanization in the 1960s land readjustment became the almost exclusive land policy (Kresse & van der Krabben, 2019). In this period the economic base was too weak to produce sound fiscal revenue and land readjustment was welcomed grateful, because of its self-financing qualities. After all, one of the advantages of the program is that public land can be acquired without investing public resources as the landowner is compensated later on for it. Landowners provide two types of voluntary land contributions in exchange for public planning efforts. On the one hand public facility land, for the construction of infrastructure and public services and on the other hand cost equivalent land, which is sold to finance the development. Besides that, this method provides more often better plans, as a new structure can be established regardless of old boundaries and the implementation will be faster compared with gradual adaptation to a new plan (Larsson, 1997). The plans were led and drafted mainly by the planning authority of the Seoul Metropolitan Government and they expanded the program in the 1960s to include 20 districts (63,674,000 m2) and most of the housing site development was based on the Land Readjustment Act. The greatest project created with this program is based in Yeongdong, where a total of 2680 ha is developed (Seoul Solution, 2015). In times of rapid urbanization land readjustment was an ideal solution but in the 1980s growth stabilized. The easy-to-develop sites in the city’s fringe were exhausted and speculation began to create serious problems in terms of housing affordability. Because of these developments, the public sought to upgrade the housing stock within the city boundaries for the upcoming middle class and create a new model that could stop the ongoing price risings.

2.1.3.2 Joint redevelopment

As just mentioned urban planning in Seoul changed in the 1980s from expanding the city’s territory with the land readjustment program to develop areas within the city boundaries. This new planning strategy needed a new program to follow. Keyword since this time is regeneration, but this evolved in use through the years. In the 1980s joint redevelopment became a dominating land policy to stop the current planning problems. In 1984 this program was introduced as the Joint Redevelopment Programme and has as its core feature in project financing and management structure, which largely depended on real estate developers’ participation in partnership with dwelling-owners (Shin, 2009).
In joint redevelopment, according to van der Krabben & Kresse (2019), the public initiates the project by selecting the redevelopment area, the landowners provide the land, while the construction company takes care of all costs for demolition, temporary housing for the residents, and apartment construction. The original landowners choose between compensation in kind or cash according to the land value they contributed in the first place. The construction company makes a profit by selling surplus apartment units on the housing market, while the public captures part of the land value increment as a recompense for changes to the land use and density regulations in the form of public facility land, as well as an additional land contribution for low-income housing. The key to its success is that the construction companies built high-rise commercial housing estates to the maximum density permitted by planning regulation on the grounds of low-rise substandard neighborhoods. When allocated some of the flats to the participated dwelling-owners, the real estate developers could sell the remaining flats on the housing market to recover development costs and make profits. Where profits are made by real estate developers, more problems occur by the original residents of a neighborhood. Survey evidence suggests that nearly 80% of original residents were displaced in this planning process (Ha, 2004). Also in this type of regeneration, it looks like government and construction companies have most of the power about what will happen with a neighborhood. Residents will be compensated but their actual influence is small. To tackle this problem a new policy needed to be developed.

2.1.3.3 Collective action, vital coalitions

The problem mentioned yet is a problem that happened in many countries around the world. A concept to tackle this problem is ‘collective action’, a term already mentioned many times and that is also the key concept of possible regeneration projects in Eulji-ro Seoul. To create collective action a broad interaction between the different actors is important. Because when working together not only the result will be more satisfying for all, but also the level of trust will rise. A way of building these strong interactions between different actors is the concept of ‘vital coalitions’. Vital coalitions can be seen, according to Horlings et al. (2010), as specific types of networks. Horlings sees three main differences from interactive policy-making: “The first is that not public, but private actors in civil society have the initiative and take responsibility for public goals. Second, the focus is more on informal negotiation, dialogue, and personal contact than on formal cooperation, intending to create productive action and room for maneuver. Third, the goal is not so much the making of plans or policy, but the development of investment propositions, regional storylines or implementation strategies”. To build such a vital coalition, there are enough innovative socioeconomic opportunities. Driving force is the combined investment possibilities for entrepreneurs who organize themselves around these opportunities within clusters. Initiators are key actors in building these coalitions. Also in Seoul, this kind of vital coalitions could help and they are already working on it. After 2010, a trend to develop more collective action-based regeneration projects began to feature as the main focus of Seoul’s urban policy and today at 131 locations across the city this kind of urban regeneration projects of varying scales are carried out (Hee, 2018). The goal of this method is ensuring that local communities can preserve cherished memories and achieve further development over time. The participation of the people living in regeneration projects is critical. Instead of trying to tackle local problems through administrative intervention, local issues are resolved by facilitating communication among residents. By the gathering of citizens, the government of Seoul wants to expand the people’s sense of self to include their communities and increase the concern from their backyards to the more broaden public area. But distrust in the government is blocking these development. The concept of vital coalitions could help in the future to tackle the current problems around communication and trust between the different actors. Especially the residents are often not well heard by public agencies and construction companies. A more informal way of thinking based on
dialogue and regional storylines could help to bridge this gap of trust and social interaction between the different actors.

As you see many regeneration projects have been dominant in South Korea and still some of the old ones are relevant nowadays. But last years more and more resistance came up under the inhabitants of Seoul. So, it seems important to change in style of regeneration. Seoul’s metropolitan government has already taken steps to undergo such a development, but there are still steps to take. The concept of vital coalitions could be a measurement to tackle the current problems between the actors and could be the solution in Eulji-ro as well. But important to remember is that especially government and private construction agencies still fall in old patterns. So initiators in the neighborhood itself possibly need to undertake the first steps towards collective action.

2.2 Conceptual framework

![Conceptual framework diagram]

**Figure 1: Conceptual framework**

In this conceptual framework (figure 1), the potential influence of governmental interventions on social capital and social capital on collective action has been set out. Also the possibility of distrust in the government as an influence on the relation between social capital and collective action has been taken into account. Governmental design principles can be operationalized as the design principles made by Elinor Ostrom transformed into an urban context. In this way it can play a part in actions taken by the government instead of the community-based principles set up by Ostrom. Social capital can be operationalized by three concepts. Trust (trust in neighbors or in the whole neighborhood), trustworthiness (homogeneity factor of society and to which characteristics the residents are preferring) and networks (the extend of social contacts with other people in the neighborhood). Distrust in the government is already clear by itself, but is in other words the level of trust the residents of a neighborhood have in their local government. Finally, collective action can be operationalized in the way people already have undertaken collective action and to what extent they are willing to cooperate in future projects. These variables are used to set up questions that are asked to the residents of the neighborhood in the survey. In this way better understandings of the relations between the different variables can be acquired.
3. Methodology

To conduct scientific research correctly, it is important to think about the methodological aspect of doing research (Vennix, 2011). This is about the reasons why certain choices are made considering the methods that are used. In chapter 3.1 there will be given an overview of the research area. In chapter 3.2 the research strategy will be discussed. Chapter 3.3 will be about the research material that has been used. Chapter 3.4 and 3.5 about the reliability and the validity of the research. Chapter 3.6 will explain the survey used in this research and finally, there will be a chapter about the operationalization of this research.

3.1 Research area

To collect data about the relation between social capital and the willingness to participate in collective action is chosen for the neighborhood Eulji-ro, in Seoul. Eulji-ro is not a typical living area but is mainly packed with little shops. This especially makes Eulji-ro a special place to investigate. After all, most of the inhabitants are only working in this area and not living.

![Figure 2: Overview of living situation in Eulji-ro (Isocarp, 2015)](image)

As can be seen in figure 2, only 2162 people live in this area, with each area characterized by one specific type of labor, which creates a dense social network between the residents living in a specific block. Compared to the other neighborhoods surrounding Eulji-ro, the area is not very modernized. Reason for the government to set up projects to develop the area and create a better living and working situation. But more and more resistance is coming up from the inhabitants of the area. Historically, the government mainly decided what happens with the area, in cooperation with construction companies. Inhabitants of the area were compensated but their influence was low. To tackle the resistance of the inhabitants, a more cooperative style of action could be a solution as previously described as a vital coalition. In such a coalition, inhabitants work together with government and private agencies, to develop the neighborhood. So setting up this research in the area could also indicate the willingness of the inhabitants to cooperate in such a type of collective action.
3.2 Research strategy

The goal of this research is: “developing more understandings about the influence of social capital of society on self-organizing spatial planning and how the government plays a role in these processes”. To reach this goal this research needs to find a way to link the social capital of the inhabitants to the willingness to participate in collective action. The most suitable way to achieve this is by conducting a survey. The research area, Eulji-ro, a neighborhood in Seoul will be used to conduct this survey. After all, in this way, the opinion of many residents can be gained. To gain the opinion of the neighborhood a select sample will be used. Considering Eulji-ro is a small neighborhood, it would be difficult to create an a-select sample with still enough respondents to create a valid research conclusion. As can be seen, focus will be more on creating a wider understanding, than on an in-depth understanding. This is because by creating first a wider image about the influence of social capital on the willingness to participate in collective action, in the future a more in-depth method can be used to get more understanding about a specific part of social capital in a spatial planning context. To know which social capital exists in the specific neighborhood where the self-organizing planning program takes place, quantitative research seems the best solution. After all, social capital is formed by the perception and interaction of the residents themselves. Filling out a written survey at a sample of the population of the neighborhood, need to give answers to the existing questions. Qualitative research could be a solution for a further in-depth approach in this subject, but first of all, a better understanding of the neighborhood is necessary. Qualitative research is besides that used in the literature study in support of the field survey. This kind of research in the field could be a solution for a further in-depth approach to this subject. So concluding, in this thesis is chosen for more width-based research with a more quantitative basis, performing in the form of a written field survey taken from a sample of the residents of the neighborhood in Seoul. This will be supported by a qualitative literature study, to better understand the concepts of social capital and the South Korean context.

3.3 Research material

The goal of this research is to better understand the influence of social capital on collective action processes like the self-organizing system in Seoul. Information about this subject is collected through the perception of the collective action process and the existing social capital of the residents of Eulji-ro, the neighborhood in Seoul. As just mentioned this data is collected by taking a survey from a sample of these residents in the form of a written survey. When processing the results the different variables (trustworthiness, social networks, institutes, and contextual variables) will be linked to the indicators used in the written survey. Other questions will be answered by a qualitative literature study and mostly provide a background to which later questions can be answered. Combining these strategies leads to the following overview:

- What is meant by a collective action problem?
  Qualitative research on the existing collective action theories and which problems they bring forward.

- Which institutional measurements exist to achieve successful collective action?
  Qualitative research on the design principles of Ostrom and their usefulness in an urban context.

- What is meant by social capital?
  Qualitative research on the different components that have their influence on the amount of social capital in a society.
What is the influence of the historical background of planning in Seoul on self-organizing spatial planning?
Qualitative research on the different planning strategies in Seoul and what their possible influence could be on modern self-organizing planning.

What is the influence of governmental measurements on social capital?
Quantitative research in the form of a survey. Conducted in Eulji-ro Seoul. Regression analysis will be done to know if there are significant results.

In what way has confidence in the government its influence on the relation between social capital and collective action?
Quantitative research in the form of a survey. Conducted in Eulji-ro Seoul. Regression analysis will possibly be done to know if there are significant results.

What is the influence of social capital on collective action?
Quantitative research in the form of a survey, conducted in Eulji-ro Seoul. Regression analysis will be done to know if there are significant results.

As you can see, to answer the main question of my research, a combination of empirical quantitative and non-empirical qualitative research is necessary and by that reason will be used in this thesis.

3.4 Reliability
When gathering data it is important that the accuracy and precision of the measuring procedure are high, also named the reliability. The reliability of research depends on three factors. First stability, consistent results with repeated measurements by the same researcher with the same instrument needs to be guaranteed. Secondly, equivalence is their enough equivalence between different observers at the same moment in time. And last internal consistency, the homogeneity between items. Do items who explain the same get the same results.

To get research with high reliability, it is important to get a high sample size. Because the reliability is dependent on this sample size and rises when the sample size is bigger. Besides that, a heterogeneous group of respondents needs to have a bigger group of respondents than a homogeneous group of respondents (Vennix, 2011). Knowing that we want to investigate a diverse group of people in Eulji-ro, a big sample size is necessary. To create a big sample size in a short time will be worked together with six other Dutch students and ten Korean students who will help to translate our questions to the Korean respondents. When conducting the survey, the group of students will be split up into four groups to cover more parts of the neighborhood.

Also, place and time can be important to receive good reliability. To increase the reliability the research has to take place on different days, timeslots and locations (Korzilius, 2008). In this way, the change of accidental measurement errors will be decreased because people will possibly answer differently on a sunny day than on a rainy day or for example in the morning differently than at night. People may, for example, give a more positive reaction about the state of the neighborhood on a sunny day than on a rainy day (Korzilius, 2008). So to receive reliable research results, the gathering of data will take place at different days and timeslots in the several blocks of the neighborhood.

3.5 Validity
The validity of research can be divided into four different types: content validity, construct validity, internal validity, and external validity. Content validity is about the way the aspects of a certain concept are measured. In other words, in what way are the concepts translated into questions, asked
in the survey. Content validity can be guaranteed by doing a good literature study in advance (Korzilius, 2008). In this research is because of that reason made use of the concepts around social capital by Ostrom and Ahn (2007), the eight principles of Ostrom (1990) and the planning history of Seoul (van der Krabben & Kresse, 2019). Construct validity is about the cohesion between the different concepts and variables of the research. This cohesion can be extracted from the literature and after that tested when the empirical research took place (Korzilius, 2008). To do this a literature study about the existing knowledge on the relationship between social capital and collective action has been done in advance. Specifically looking into the knowledge about collective action problems by Olson (1965) and Ostrom (1990) and the knowledge about social capital by Ostrom and Ahn (2007) and Granovetter (1973). The internal validity is about the quality of the conclusions made in the research. Taking into account if some variables which were not used in the research caused the conclusion that is made. For example some personal aspects, that are asked for in the survey, which are not directly linked to the conceptual framework. They are used to prevent that they influence the conclusions when not taken into account. Also by literature study can be decided which control variables are important in this research. The last kind of validity is external validity. Research is external valid when the research results and the additional conclusions can be generalized to the complete population. In this case, research results apply to the complete population. In this kind of research no administrative registration of the population was available and because of that reason is chosen for a select sample of the population of the neighborhood. Because of that reason, the research results can not be generalized for the complete population, in other words, a low external validity. Because only something can be said about the population that will participate in the survey. After all, there is an unequal chance to participate in the survey. Only people who are working in the area at the moment the data is gathered, can participate. Besides that to gain a high external validity it is important to approach a diverse group of people representing the composition of the total population. This has to be achieved to gather the data in all the different areas of the neighborhood and approach to all different age groups, genders and job functions. In this way, no certain group will be excluded, which could obstruct the research conclusions.

3.6 Survey
To collect new data to reach the research purpose there has been chosen for conducting a survey as a research strategy (the questions can be found in attachment A). This survey is conducted by walking down the streets of Eulji-ro and ask people living or working there to complete the questionnaire. This has been done by answering questions on mobile phones taken along. Because the residents in the neighborhood spoke mostly only Korean, some Korean students helped to collect the data, also because of this reason the survey was translated into Korean. First, the survey starts with a short introduction about who the researchers are, what they want to investigate, how long the survey will take and in what sense the results will be used. Emphatically has been stated that the results only will be used for scientific purposes and that it will be completely anonymous. After all confidence in government and private cooperations is not very high in the neighborhood. All of this has been done to create a first impression and to encourage the residents of the neighborhood to complete the questionnaire. After that, some general questions will be asked about their living situation. For example questions about their age, gender and employment status. Answer options will be set up differently per question, taking into account the most logic answer options. Most of them like gender and employment status are nominal but the question about age is an interval measurement level. After that, there will be asked some more specific questions about their recent participation in collective action. Answer possibilities will be given with a scale from zero until ten. All questions asked here are ordinal. Then there will be asked questions about the factors that indicate
the extent of collective action. These questions are divided into three sections. First some questions about their relationship to the government, like how the government enables them to improve the neighborhood and if their opinion is taken seriously. After that, there will be asked some questions about their relationship with their neighbors, like if they trust them and if they have friends in the neighborhood and last some personal questions about their willingness to cooperate. All of these questions are ordinal and can be answered at a scale from zero until ten. The last step of completing the questionnaire is answering again some general questions about their living situation (nominal), educational title (ordinal) and net income (interval). These three questions are asked at the end, because of the possibility of a sensitive reaction. This with the result that some probably would not fill in the other questions of the survey. The survey is made with the online program Qualtrics which is made available by Radboud University for students. The advantage of using Qualtrics is the possibility to easily convert the collected data to SPSS. With SPSS the statistical analysis is made to create an overview of the relation between social capital and the willingness to cooperate. These results will, later on, be discussed.

3.7 Operationalization
As mentioned before, the goal of this research is collecting data about the relation between social capital and the willingness to participate in collective action and which part government plays a role in this process. To collect this information a written survey will be used as mentioned yet. To collect the right information several questions are used per variable. The variables are governmental design principles, social capital, distrust in government and collective action. First governmental design principles, questions that can be linked to governmental design principles are:

- "The government enables me to improve the neighborhood."
- "I know which institution to contact if I want to improve the neighborhood."
- "The government informs me on developments in this neighborhood"
- "Regulations and/or laws restrict me to improve the neighborhood."
- "There is a community neighborhood organization or community leader who helps me with the development of the neighborhood."

The second variable in the conceptual framework is social capital that can be operationalized into trust, trustworthiness and networks. Questions that can be linked to social capital are:

- "I trust my network to make the right decisions regarding the developments in the neighborhood"
- "I told my neighbors about my plans for developments"
- "I often talk with people in the neighborhood."
- "I have a lot of friends in the neighborhood."
- "I feel a sense of community in the neighborhood."
- "I activate other people to help improve the neighborhood"
- "I am content with the current state of the neighborhood"
- "I worry about the development of the area"
The third variable in the conceptual framework is ‘distrust in government’. Questions that can be linked to distrust in the government are:

- “I fear to be financially damaged by the redevelopment of the neighborhood’
- “I think my opinion is taken seriously by governmental institutions”
- “I don’t care what government does with the neighborhood as long as I am well compensated”

The last variable in the conceptual framework is ‘collective action’. Questions that can be linked to collective action are:

- “I have participated recently (the past 5 years) in activities to help improve the neighborhood”
- “I have invested a lot of time in neighborhood improving activities”
- “I have invested a lot of money in neighborhood improving activities”
- “I am willing to participate in improving the neighborhood”
- “On what scale are you most likely to invest in time, money and/or effort (More answers are possible)

The general questions asked can be linked to all of these four components to conclude about the relationship between social capital and collective action and the role the government may play in this process.

To conduct scientific research correctly, it is important to think about the methodological aspect of doing research (Vennix, 2011). This is about the reasons why certain choices are made considering the methods that are used. In chapter 3.1 there will be given an overview of the research area. In chapter 3.2 the research strategy will be discussed. Chapter 3.3 will be about the research material that has been used. Chapter 3.4 and 3.5 about the reliability and the validity of the research. Chapter 3.6 will give an explanation about the survey used in this research and finally there will be a chapter about the operationalization of this research.

4. Analysis

In this analysis chapter, the results of this research will be presented. This will be based on the results of the conducted surveys in the neighborhood in Seoul mentioned before named Eulji-ro. Through descriptive statistics will be given an overview of the personal characteristics of the respondents. Besides that, the descriptive statistics will be used to get an insight in their relation to the used variables: Trust(worthiness), networks and external variables. After that, inferential statistics are used to test the relationship between social capital and collective action. Using the variables trust, networks, and external variables.

4.1 Data file

In total there are 285 surveys conducted around the neighborhood. The analysis will be executed on this total of 285. Not many results missing an answer have been found because of the system that is used to conduct the data, the next question could not be answered if the current question is not answered yet. Some statistics are still missing, but these respondents are still used in the analysis. When missing files exist analyzing descriptive or inferential descriptives, the valid percentage of the statistic will be used.
4.2 Personal characteristics

To get an insight on the personal characteristics of the respondents the variables age, gender, employment status, relation to the neighborhood, type of entrepreneur, location inside the neighborhood, time spent in the neighborhood, owning or renting the property, current living situation, educational title, and annual net income are analyzed. An overview of the exact frequencies can be found in attachment B.

4.2.1 Age

In this research, the answer options of age were divided into five answer categories (0-17, 18-30, 31-45, 46-60 and 61+). Just one person answered this question with an age between 0-17, so mostly all the respondents are 18 years or older. The median of the respondents can be found in the group 46-60, which is also the group with most of the respondents (49.8 percent), as can be seen in figure 3. The average age of Seoul is approximately 41.8 years (worldpopulationreview, 2019). So, most of the respondents are older than the average age of Seoul. Two answers are missing and are not taken into account when analyzing this data.

![Figure 3: age](image-url)
4.2.2 Gender
The variable gender is divided into three answer options: male, female and other. As can be seen in figure 4, most of the respondents identify themselves as men (80.2 percent). Everyone identifies itself as female or male, no one as other. Logically this is far beyond the average of the Republic of Korea, which is at a level of 100.22 males per 100 females in 2015 (Knoema, 2015). Two results are missing and are not taken into account when analyzing this data.

Figure 4: gender

4.2.3 Employment status
The variable employment status is divided into five answer options: employed full time, employed part time, unemployed, student and retired. Since most of the respondents work in Eulji-ro it is logical that the employment status of most of the respondents is ‘employed full time’ (92.6 percent) as can be seen in figure 5. Three results are missing and are not taken into account when analyzing the data.
4.2.4 Relation to the neighborhood

The variable ‘relation to the neighborhood’ is divided into four answer options: resident, entrepreneur, employee and ‘both resident and work’. As you can see the relation to the neighborhood is for most people work-related. Just 3.5 percent of the respondents lives in the area (Accumulation of the answer options ‘resident’ and ‘both resident and work’. Figure 6 shows that most of the people who work in the area are entrepreneur (73.9 percent) and also a few are employee (22.6 percent). Two results are missing and are not taken into account in analyzing this data.
4.2.5 Type of entrepreneur

The variable ‘type of entrepreneur’ is divided into four answer options: creative, restaurant, retail and manufacturing. The four categories are chosen by information about the area delivered by Korean students, who knew the neighborhood already. The respondents, as can be seen in figure 7, are mainly working in the retail (54.5 percent) and manufacturing sector (37.6 percent). This is a little bit misleading when comparing to the overall division of work in the area. This is caused by the possibility to answer question during work, while people with a shop were willing to answer when no customers around, the people working in a restaurant where mostly more busy and unable to fill in the survey. Also six results are missing and are not taken into account when analyzing this data.

![Figure 7: type of entrepreneur](image)

4.2.6 Location

The variable location is divided into: Block 2, block 3, block 4, block 5, block 6.1 block 6.2, block 6.3, block 6.4, Sewoon Sangga, Cheongye Sangga, Daerim Sangga, Sampung Sangga, PJ Hotel, Sinseong Sangga and Jinyang Sangga (figure 8). These blocks are also used to divide the group of students who gathered the data, in this way, even it is a selective way, a broad group of surveys could be conducted. Eulji-ro is divided in the following way:
Figure 8: Eulji-ro divided into blocks

As can be seen (figure 9) most of the respondents are located in block 5 (17.1 percent) and block 6.1 (17.9 percent), while none can be found in Daerim Sangga, Sampung Sangga, PJ Hotel, Sinseong Sangga and Jinyang Sangga. This is because these buildings are filled with hotels and other facilities that could not be well used for our research. Five results are missing and will not be taken into account when analyzing the data.
4.2.7 Time

The variable time is divided into: 0-2, 2-5, 5-10, 10-20 and 20 or more years. As can be seen (figure 10) most of the respondents are located in the neighborhood for a long time. 49.6 percent have spent 20 or more years in the area. Side note, the categories are not evenly divided, so the duration of residency is a little bit misleading. These categories are chosen because in the first years important steps can be made in creating a social network in the area. One result is missing and is not taken into account while analyzing this data.

Figure 9: location

Figure 10: time
4.2.8 Exploitation
The variable exploitation is divided into two answer options: Rent or own. As can be seen (figure 11) most of the respondents rent their property (89.3 percent). Four results are missing and will not be taken into account while analyzing this data.

![Figure 11: exploitation](image)

4.2.9 Living situation
The variable ‘living situation’ is divided into five answer options: Solitary, with partner, with family, with roommates and other. As can be seen (figure 12) most of respondents are living with their family (63.7 percent), while nearly no one lives with roommates (0.7 percent). This is similar to the results of employment status and age. Where most of the people are between 46 and 60 years old it’s more logical they live with their family, while according to employment status there are nearly no students. So logically, nearly no one living with roommates. One result is missing and is not taken into account when analyzing the data.
4.2.10 Educational title

The variable educational title is divided into eight answer options: None, primary school, middle school, vocational high school, general high school, junior college, university and I do not want to answer this question. As can be seen (figure 13) the educational level of the respondents is left skew, according to this graph. While most of the people have a university degree (28.2 percent). Also the option ‘I do not want to answer this question’ is set up for this question because of the possible sensibility. One result is missing and will not be taken into account when analyzing the data.

4.2.11 Annual net income

The variable ‘annual net income’ is divided into six answer options, set out in Won: 0-15.000.000, 15.000.001-30.000.000, 30.000.001-45.000.000, 45.000.001-60.000.000, 60.000.001 + and I do not want to answer this question.
want to answer this question. As can be seen (figure 14) every answer option is well chosen by the respondents with the median income in the category 15.000.001 - 30.000.000 won. The average income of Seoul is 37.810.000 won, a little bit higher than the median, but this one can be influenced by top-earners in the city (Feinberg, 2018). Also this question included an option ‘I do not want to answer this question’ because of the possible sensibility of this question. Two results are missing and will not be taken into account when analyzing the data.

![Annual Net Income Distribution](image)

*Figure 14: annual net income*

4.3 Governmental design principles

This paragraph will give some information about which measurements the government has taken, according to the respondents, in stimulating collective action. This information is based on some questions asked in the survey. The respondents needed to answer the questions with a grade between zero and ten, which all of the 285 respondents filled in. As can be seen in table 1, the presence of the design principles of Ostrom in an urban context is very low, according to the respondents. All of the five questions score lower than the middle of the grade ranking in the survey (which is five). Especially at the question ‘the government enables me to improve the neighborhood’ is the main reaction negative with a mean score of 2,8175. But in the same way there are also not many restrictions to improve the neighborhood, according to the respondents. After all, the question ‘Regulations and/or laws restrict me to improve the neighborhood’ has a mean score of 4,3439.
Table 1: governmental design principles

<table>
<thead>
<tr>
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<th>Minimum</th>
<th>Maximum</th>
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<td>The government informs me on</td>
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<td>0.00</td>
<td>1.00</td>
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<td>the developments in this</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>neighbourhood (For example:</td>
<td></td>
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<td>public hearings, social media,</td>
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<tr>
<td>news, etc) - 1</td>
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<td>improve the neighbourhood</td>
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<tr>
<td>(For example: subsidies,</td>
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<td></td>
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<tr>
<td>legal help, laws) - 1</td>
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<tr>
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<td>contact if I want to improve</td>
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<td>the neighbourhood - 1</td>
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<tr>
<td>Regulations and/or laws</td>
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<td>neighbourhood - 1</td>
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<td>There is a community</td>
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<td>1.00</td>
<td>3.2246</td>
<td>3.01267</td>
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<td>neighbourhood organization or</td>
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<td>community leader who helps me</td>
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<td>with the development of the</td>
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</table>

4.4 Social capital

This paragraph will give some information on the social capital the respondents experience. So in which way people trust their neighbors and to what extend they have social relations with their neighbors or other people in the neighborhood. Eight questions are asked about these kinds of social capital, which are asked in the survey. All of the 285 respondents answered these questions. In contrast to the extent of governmental measurements, the respondents are in general more satisfied about their social relations in the neighborhood, as can be seen in table 2. They say they often talk to people in the neighborhood (7,4105), that they have a lot of friends (6,8596) and that they feel a sense of community in the neighborhood (6,8316). A lot of them worry about the future developments of the neighborhood (6,7439) but taking actions to activate others (5,2246) or trust others regarding the development of the neighborhood (4,9825) is still in a dissension, with some really active but others still holding back. One of the general question was also about the size of their social network, which can be seen in figure 15.. As can be seen, a small group says their network is somewhere else but most of them feel their social network is inside the neighborhood. Which is quite extraordinary for a neighborhood where most of the people only work and not live.
<table>
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<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<td>I told my neighbours about</td>
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<td>- 1</td>
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<tr>
<td>I often talk with people in</td>
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<td>0.00</td>
<td>10.00</td>
<td>7.4105</td>
<td>2.55018</td>
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<td>the neighbourhood - 1</td>
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<tr>
<td>I have a lot of friends in</td>
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<td>0.00</td>
<td>10.00</td>
<td>6.8596</td>
<td>2.88962</td>
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<td>the neighbourhood - 1</td>
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<tr>
<td>I feel a sense of community</td>
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<td>in the neighbourhood - 1</td>
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<td>I activate other people to</td>
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<td>0.00</td>
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<td>help improve the</td>
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<td>I am content with the</td>
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<td>I worry about the</td>
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</table>

**Table 2: social capital**

![Bar chart](image)

**Figure 15: scale of neighborhood network**
4.5 Distrust in the government
This paragraph will give some information about the distrust in the government, according to the respondents who filled in the survey. In this survey three questions are asked about this subject. All of the 285 respondents filled in these questions. As can be seen in table 3, trust in government is not very high. Especially the questions ‘I think my opinion is taken seriously by governmental institutions’ (2,5333) and ‘I fear to be financially damaged by the redevelopment of the neighborhood’ (6,8561) are a good example for this.

<table>
<thead>
<tr>
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<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
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<tr>
<td>I fear to be financially damaged by the redevelopment of the neighborhood - 1</td>
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<td>0.00</td>
<td>10.00</td>
<td>6.8561</td>
<td>3.27877</td>
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<td>I think my opinion is taken seriously by governmental institutions - 1</td>
<td>285</td>
<td>0.00</td>
<td>10.00</td>
<td>2.5333</td>
<td>2.80149</td>
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<td>I don’t care what the government does with the neighbourhood as long as I am well compensated (For example financially, housing, business opportunities) - 1</td>
<td>285</td>
<td>0.00</td>
<td>10.00</td>
<td>4.8526</td>
<td>3.36815</td>
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<tr>
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</table>

*Table 3: Distrust in the government*

4.6 Collective action
In this paragraph some information will be given about the degree of collective action the respondents have participated in in the past and if they want to participate in collective action in the future. This has been asked to the respondents in seven different questions. First, some questions are asked about the current and future state of the neighborhood and what they think about it, possible indicators if they are willing to undertake action by themselves. All 285 respondents answered these questions. As can be seen in the following table some questions are asked about their recent participation in neighborhood improving activities and if they put a lot of time and money in these activities. According to the results (table 4), just a small part of the respondents recently took part in collective action and even a smaller mean value can be found when looking into the question about investment with time or money. ‘I have participated recently (the past 5 years) in activities to help improve the neighborhood’ has a mean of 3,2596, ‘I have invested a lot of time in neighborhood improving activities’ a mean of 3,2211 and ‘I have invested a lot of money in neighborhood activities’ a mean of 2,7439. At last, there are asked two questions about their possible willingness to participate in collective action in the future. The question ‘I am willing to participate in improving the neighborhood’ has a mean of 5,6070. This one is higher than of the recent participation in the past. So possible more people can be activated to participate in some kind of collective action. Besides that the question ‘On what scale are you most likely to invest in time, money and/or effort?’ is asked. This question has multiple answer options the respondents could possible picked out more than one. These options are individual property, shared investment in
public space, shared investment in their block, and shared investment in the neighborhood. These results are set out in table 5 and show that most of the people when investing in their neighborhood are most likely to invest in the block they are living in (180 respondents). A possible reason for this is the strong social network the people in the neighborhood experience with their neighbors, as found in other results.

<table>
<thead>
<tr>
<th></th>
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<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<td>.00</td>
<td>10.00</td>
<td>3.2596</td>
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<td>I have invested a lot of money in neighbourhood improving activities - 1</td>
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<td>.00</td>
<td>10.00</td>
<td>2.7439</td>
<td>3.03618</td>
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<td>I have invested a lot of time in neighbourhood improving activities - 1</td>
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<td>.00</td>
<td>10.00</td>
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<td>3.22571</td>
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<td>I am willing to participate in improving the neighbourhood - 1</td>
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*Table 4: Collective action*

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<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
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<td>On what scale are you most likely to invest time, money and/or effort? (More answers are possible) individual property</td>
<td>88</td>
<td>1</td>
<td>1</td>
<td>1.00</td>
<td>.000</td>
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<td>On what scale are you most likely to invest time, money and/or effort? (More answers are possible) shared investment in public space</td>
<td>42</td>
<td>1</td>
<td>1</td>
<td>1.00</td>
<td>.000</td>
</tr>
<tr>
<td>On what scale are you most likely to invest time, money and/or effort? (More answers are possible) shared investment in block where you are located</td>
<td>180</td>
<td>1</td>
<td>1</td>
<td>1.00</td>
<td>.000</td>
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<td>On what scale are you most likely to invest time, money and/or effort? (More answers are possible) shared investment in the neighborhood</td>
<td>34</td>
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<td>Valid N (listwise)</td>
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<td></td>
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</table>

*Table 5: Scale level of investment*
4.7 Cronbach’s alpha test

In this research has been made use of a Cronbach’s alpha test to measure the internal consistency of several survey questions. It is necessary to compute the several survey questions for each variable to use in variance and regression analysis. So by using a Cronbach’s alpha test their will be more information about the internal coherence between the question asked per investigated variable (governmental design principles, social capital, distrust in government and collective action). The Cronbach’s alpha, when one of the items is deleted can be found in attachment C.

The dependent variable in this research is collective action. In the previous chapter five questions have been linked to this variable and are all also used to compute into one variable, collective action. The Cronbach’s Alpha when the questions are computed is 0.811 (figure 16). This is a good enough (Kreulen, n.d.), which would say that the internal coherence is well enough to use in regression analysis.

**Reliability Statistics**

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
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<tr>
<td>0.811</td>
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</tbody>
</table>

*Figure 16: Cronbach’s alpha collective action*

The second variable that has been made use of in this research is ‘governmental design principles’. For this independent variable in relation to social capital have been set up questions. When executing a Cronbach’s alpha test on these questions, the Cronbach’s alpha is 0.692 (figure 17), which is nearly acceptable. No questions can be removed to increase this number by big steps. So, when analyzing the data by regression analysis this computed variable will be used.

**Reliability Statistics**

<table>
<thead>
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</tbody>
</table>

*Figure 17: Cronbach’s alpha governmental design principles*

The third variable that has been made use in this research is social capital. This variable is as well an dependent variable, in relation to governmental design principles, as an independent variable, in relation to collective action. Eight question are asked about this variable and are used in this Cronbach’s alpha test. The Cronbach’s alpha in this test is 0.728 (figure 18), which is acceptable. This number could be higher by removing one or two question but they have a too important factor in this research to just remove them.

**Reliability Statistics**

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<thead>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

*Figure 18: Cronbach’s alpha social capital*
The last variable that has been made use of in this research is distrust in government. This is an independent variable on the relation between social capital and collective action. Because this variable is only useful when governmental principles are set out well and trust in government is low, there has been chosen to not use this variable in further regression analysis. After all, in this case, both governmental design principles and distrust in government are corresponding with each other.

4.8 Regression

The last paragraph of this chapter is about the two single linear regression analyses that are executed. The first single linear regression analysis is between the independent variable ‘governmental design principles’ and the dependent variable ‘social capital’. In other words, what is the influence of ‘governmental design principles’ on the extent of ‘social capital’. This relation is tested because of the possible influence found in the literature study. The second single linear regression analysis is between the independent variable ‘social capital’ and the dependent variable ‘collective action’. In other words, what is the influence of ‘social capital’ on the extent of ‘collective action’. Also, this relation is tested because of a possible influence found in the literature study. When looking at the conceptual framework ‘distrust in government’ is mentioned as an interaction variable. But this one would only be tested when governmental design principles were set out well in the neighborhood and the trust in government was low. But when interpreting the results in the descriptive statistics, there can be seen that the governmental design principles are not set out well in the region, according to the respondents. Because of that, there will be no regression analysis of this interaction variable. After all, the results will be difficult to link to the right variable (governmental design principles or distrust in government).

4.8.1 Assumptions

To execute these two single linear regression analyses, there has to be met to some assumptions (Siero et al., 2009):

- The sample exists of independent observations
- There has to be a linear relationship between de independent and the dependent variable
- The variance of the residues is equal for all the possible values of the independent variable (homoscedasticity)
- The residues are normally distributed
- The dependent variable needs to be set up in an interval or ratio scale level, the independent variable can also be categorical but then some dummy variables need to be used.

The first assumption cannot be measured up to fully. Because the conducted survey is not completely an a-select sample. The respondents are asked to fill in the survey by the students without using an address file to randomly pick these respondents. In this way, some people are forgotten and probably some kind of people are asked more to fill in the survey than others. In this way this single linear regression analyses cannot be easily generalized for the total population and a next regression analysis can give a different result. The regression analysis will still be taken out linearly, but the significance found afterwards cannot be directly used to generalize the results.

The second assumption is about the correlation between the different variables. Because two single linear regression analyses will be executed, both the correlation between governmental design principles and social capital as the correlation between social capital and collective action are tested. This is done by a Pearson correlation test. According to this test social capital increased with 0,438 when governmental design principles increases with 1, at a significance level of 0,000 (obviously
significant enough) (table 6) and collective action increased with 0.609 when the social capital increases with 1, also at a significance level of 0.000 (table 7). Interpreting these results, there can be found a significant level of correlation between the different dependent and independent variables. However, no conclusion can be given about the causality, maybe other factors play a role in how this correlation comes into being.

Table 6: Pearson correlation test of governmental design principles and social capital

<table>
<thead>
<tr>
<th>governmental_design_principles</th>
<th>Pearson Correlation</th>
<th>social_capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>.436**</td>
<td>.436**</td>
</tr>
<tr>
<td>N</td>
<td>285</td>
<td>285</td>
</tr>
</tbody>
</table>

Table 7: Pearson correlation test of social capital and collective action

<table>
<thead>
<tr>
<th>social_capital</th>
<th>Pearson Correlation</th>
<th>collective_action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (2-tailed)</td>
<td>.609**</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>285</td>
<td>285</td>
</tr>
</tbody>
</table>

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

The third assumption is about the homoscedasticity of the relation between the independent and the dependent variables. This assumption means that the residues have the same variance on each level of the predictor. In other words, the distance between the individual observations and the regression line is meanly the same for each point on the line. To test the homoscedasticity a plot of the single linear regression analysis needs to be interpreted. As can be seen in both of the two scatterplots, one with social capital as dependent variable (figure 19) and the other with collective action as dependent variable (figure 20), the homoscedasticity seems to be alright. On the complete regression line (line zero), points lay on top as on bottom of this line.
The fourth assumption is a normal distribution of the residues. This means that the number found most is in the middle of the distribution (the mean) and how further away from this point in the middle how less observations. The normal distribution can be found by executing some QQ plots (figure 21, 22 and 23). When the observations are on or near the line, one can conclude that the data is normal distributed. All three of them are in this way distributed, so the variables are normal distributed.
Figure 21: normal distribution social capital

Figure 22: normal distribution governmental design principles
The last assumption is that the dependent variables are both on an interval or ratio scale level, the independent can be categorical but then needs to be transformed into a dummy variable. Because the questions that are used could all be answered on scale of one to ten, no problems occur on this point when executing the regression analysis.

### 4.8.2 Single linear regression: governmental design principles and social capital

The first single linear regression that is executed in this research is on the relation between the independent variable ‘governmental design principles’ and the dependent variable ‘social capital’. The single linear regression results in the following outcomes (table 8). The model summary explains that, according to the R Square, 19.1 percent of social capital can be explained by the governmental design principles. The other 80.9 percent has other reasons.

#### Table 8: regression analysis model summary of the relation between social capital and governmental design principles.

A Normal Q-Q Plot of collective action

![Normal Q-Q Plot of collective action](image)

The ANOVA table (table 9) rapport the variance analysis. The most important part of this table is the F-ratio (F) and the corresponding level of significance. According to this ANOVA-test the F-ratio is 66.993, which is significant with $p < 0.001$ (after all sig. is smaller than 0.0001). This means that there is a chance of less than 0.1 percent that a F-ratio of this size exists when the zero-hypothesis is true. So there can be concluded that this regression model consists significant independent variable.
Table 9: regression analysis ANOVA of the relation between governmental design principles and social capital

The ANOVA-table explains if the model results in general in a significant good prediction of the dependent variable. However, ANOVA does not say anything about the individual contribution of the variables. This would be important when dealing with a multiple regression model but in this research is made use of two single regression analyses. So, the ANOVA-test is already an explanation of the independent variable itself. At last the ‘coefficients’-table (table 10) gives some information on the size and the significance of the extend of the independent variable on the dependent variable. In this regression analysis, the regression line is the result of the equation: 37,990+0,589*governmental design principles. According to the t-test this effect is also significant, after all the chance of a value bigger than 8,185 is smaller than 0,0001.

Table 10: regression analysis coefficients of the relation between governmental design principles and social capital

The second single linear regression that is executed is on the relation between the independent variable social capital and the dependent variable collective action. This single linear regression results in the following outcomes. The model summary (table 11) explains that, according to the R Square, 37,1 percent of collective action can be explained by the amount of social capital. The other 62,9 percent has other reasons.
Table 11: regression analysis model summary of the relation between social capital and collective action

The ANOVA table (table 12) rapport the variance analysis of this regression analysis. This table shows us that the F-ratio \((F)\) is 166,928, which is significant for \(p < 0.001\). In other words, there is a chance less than 0,1 percent that a F-ratio of this size exists when the zero-hypothesis is true. So there can be concluded that is regression model consists a significant independent variable.

Table 12: regression analysis ANOVA of the relation between social capital and collective action

Because this is a single and not a multiple linear regression analysis the ANOVA test already can be directly linked to the significance of the independent variable ‘social capital’. At last the ‘coefficients’-table gives information on the size and significance of the extent independent variable on the dependent variable. In this regression analysis, the regression line is the result of this equation: \(-7.477 + 0.461 \times \text{social capital}\).

Table 13: regression analysis coefficients of the relation between social capital and collective action

Two short mentions need to be taken into account when interpreting these single linear regression analysis. First, as mentioned before, in this research there has been made use of an a-select sample, so the outcomes cannot be directly generalized for the total population. Second, because there has been worked with variables that cannot be measured in numbers, the coefficient outcomes cannot
be directly interpret as results. However, the direction and the extent of influence of the independent variables on the dependent variables could be observed.

5. Conclusions
In this chapter will a conclusion be given on the main question of this research. After that some recommendations will be done for the practical elaboration of these conclusions and which further research can be done on this subject. Finally there will be reflected on the executed research.

5.1 Conclusion
Based on the collected data in Eulji-ro, the neighborhood in Seoul and on the literature study done in advance there will be given an answer to the main question of this research:

- What is the influence of social capital on self-organizing spatial planning in Eulji-ro Seoul and which role has the government to play in setting up collective action?

To answer this question existing information about social capital, collective action and spatial planning in Seoul is collected and after that, a survey is conducted on the influence of governmental measurements on social capital and of social capital on collective action.

In the literature study has been found that design principles could be set up for successful collective action, founded by Elinor Ostrom and named the Elinor Ostrom’s design principles. Because Elinor Ostrom’s design principles are not made to use in an urban context, some changes had to be made. After all, in an urban context, governmental institutions have much more influence. In this research is in this way the design principles of Ostrom linked to the governmental measurements that need to be taken to achieve successful collective action between government, private companies and the residents of a neighborhood. After that, found in the literature study, the concepts that create social capital are explained. These are trust, trustworthiness and networks, which all have their influence on the way people want to cooperate and so possibly want to participate in collective action. Also, institutions are mentioned, but in this research is chosen to couple the part of the institutional influence on the governmental measurements. At last in literature study, some background information is collected on the history of spatial planning in Seoul. Which could be useful to understand certain results that may be found in the quantitative research. Also was found in here some evidence for a possible influence of distrust in government as a reason for failing collective action, even if governmental design principles are set out well and the social capital of a neighborhood is good. Based on this literature study, finally, the conceptual framework was set up. After all, from literature study could be concluded that there is evidence that governmental measurements (governmental design principles) have their influence on social capital and that social capital has an influence on collective action. Also, distrust in government was added as an interaction variable on the relationship between social capital and collective action. To test this evidence a survey with questions per variable was set up.

Before mentioning the conclusions on the relations between the different variables, first, a reflection needs to be made on the descriptive statistics of the neighborhood. Some extraordinary results found in the survey data are that most of the residents of the neighborhood, while they are only working in the neighborhood, have strong internal connections with other people in the neighborhood and also trust in their neighbors is high. Which could, according to the literature study, be a perfect fertile soil for setting up collective action. However, not many have participated already in collective action and spent a lot of time/money on it. A Possible reason for this could be found in the way the governmental design principles are worked out in the area. The questions that can be linked to these principles were mostly all answered negatively by the respondents and also the
confidence in government was low. These results already gave an indication of the possible influence of governmental design principles on social capital and also of social capital on collective action. But to give a definitive answer some regression analyses are executed.

The first question that needed to be answered based on the conducted survey is ‘what is the influence of governmental measurements on social capital’. In this question, governmental design principles is used as an independent variable and social capital as a dependent variable. For both variables, a couple of questions is asked in the survey. The results of these questions are thereafter merged into compound variables, to use in the single linear regression analyses. In this single linear regression analysis is found that there is indeed a positive significant influence of governmental design principles on the extent of social capital, ($R^2= ,191; F(1,283) = 66,993; p < 0,001$). In other words, there can be concluded that measurements taken by the government to inform, regulate and monitor collective activities contribute to a higher extent of social capital (trust, trustworthiness, and networks) in this neighborhood.

The second question that needed to be answered based on the conducted survey is ‘what is the influence of social capital on the extent of collective action’. In this question, social capital is used as an independent variable and collective action as a dependent variable. For both variables, a couple of questions is asked in the survey and thereafter these questions are merged into compound variables to use in the single linear regression analysis. In this single linear regression analysis is found that there is also, like the influence of governmental measurements on social capital, a positive significant influence of social capital on collective action ($R^2=0,371; F(1,283) = 166,928; p < ,001$). In other words, there can be concluded that a higher amount of social capital, like trust in their neighbors or network bonds in the neighborhood, leads to a higher extent of cooperative actions among the residents of the neighborhood.

Also, a third question was asked in advance on the interactional influence of the distrust in the government, which was found in the literature study on the spatial planning history of Seoul, on the relation between social capital and collective action. However, this question could only be well tested if the results on governmental design principles was positive. In setting out the descriptive statistics, there was already found that the results given by the respondents would work out in a negatively way for these principles. Because of that, there has been chosen to not execute a regression analysis on this variable.

Altogether, there can be concluded that some relevant results are found in this research. There is prove that governmental design principles have their influence on social capital and that the same social capital has also an influence on the extent of collective action. Answering the main question it seems that social capital has a significant influence on collective spatial planning and that, because of the influence of governmental measurements on social capital, the government has to play an active role in this process. To achieve this fertile soil for collective action it seems in that way important to invest time in setting up these design principles in a neighborhood and on the internal connections of a neighborhood. More insight will be given about the possible actions in the next paragraph.

5.2 Recommendations

The goal of this research is to close the existing knowledge gap on the relation between social capital and collective spatial planning and on the relation between governmental measurements and social capital. Thereafter there can be set up possible actions to achieve collective action. Knowing the relation between the different variables. In this paragraph there will be given some short
recommendations about possible actions that can be put into practice and some recommendations on possible follow-up research.

5.2.1 Practical recommendations

As can be concluded from the results the government plays an important role in creating a high extent of social capital and in that way indirectly also on collective spatial planning. To achieve successful collective action it seems in that way important to invest time and money in setting up governmental design principles as mentioned by Ostrom and transformed in useful principles in an urban context. Possible actions that a government can take to improve the extent of collective action:

- Provide information meetings about possible collective action events. Also, advertising and other promoting ways to achieve collective action could be useful. After all, by promoting your plans, the residents could be motivated and less suspicious to participate in collective action.

- Promote citizen initiatives for developments of the area. Citizen initiatives under the guidance of the government can help to gap a trust-issue between government and citizens. In this way, people probably are more motivated to participate in this kind of collective action. Also when the government participates actively in these citizen initiatives this can work out positively for the confidence in other government projects.

- Setting out clear rules which the participants of the collective action problems have to follow. These rules need to be set out together with the participants. So they do not to be delegated by the government. After all, when you want that these rules are followed well, everyone needs to accept and appreciate them in advance. These rules lead possible to less free-rider behavior by the participants of the collective spatial planning and in this way, the collective action could be executed more smoothly.

- Well monitoring the existing collective spatial planning projects. Because when there is no overview of these projects, rules easier could not be followed up, which will disturb the process of redevelopment.

- At last, be clear as a government where people can go with certain problems and have an advising role in the different existing collective action projects. Supporting these projects is a key element in successfully achieving the goals of these projects. After all, in an urban context governmental institutions have the best overview of the project.

Altogether, these are just a view ways in which the government can support or even set up collective action projects in a neighborhood and secure they are worked out well. This research mainly contributes to a better understanding of the relationship between governmental measurements, social capital, and collective action and with the found results some first steps are made in the process of successful collective action. But some further investigation is needed.

5.2.2 Follow-up research

As just mentioned some further investigation is needed to get an even better view of the relation between the different variables and the possible ways to put this new knowledge into practice. First, in this research, only the influence of governmental design principles on social capital is tested, not directly on collective action. In possible follow-up research, the relation between these two variables can be further tested.

Secondly, as can be seen in the conceptual framework distrust in government is mentioned as a possible interaction variable on the relationship between social capital and collective action. To
better test this relation, a survey in a neighborhood with all governmental design principles worked out well and a low extent of collective action could give a definitive answer. Thirdly, in this research, no extra focus lays on the different measurements that best can be taken by governmental institutions to achieve successful collective action. Qualitative research on this subject seems to give a better answer on this subject. As in this way more in-depth information can be gathered about the different measurements that a government or a society as a whole can take to achieve successful collective action.

Concluding, this research has made some first steps in a better understanding of the collective action process and the ways it is possible to improve it. However, there is still a long way to go. Follow-up research is needed to further bridge the gap and successfully implement it in everyday life.

5.3 Discussion
In this discussion paragraph will be reflected on the research and on which point it could be improved. First, the number of respondents was a little bit lower than in advance expected. A total of 285 respondents filled in the survey, where the goal of this research was at least 400 respondents. Reason for this low number are the unwillingness or business of many of the residents of the neighborhood, with the result that many refused to answer the survey questions. Besides that also the total number of residents in the neighborhood is actually pretty low, beneath 3000. In this way it was more difficult to reach a sufficient amount of respondents. Another downside of the survey is that it is conducted in a select way. In other words, the people were not randomly chosen in advance, but just asked on the street or in their shops to fill in the survey. Reason to do this in this way is because on the one hand the way the residents are registered is very unclear and on the other hand would the number of respondents maybe even lower when chosen a-select. Because of the select sample it is difficult to make statements for the total population, or in other words to generalize the found results. In further investigation on this subject it seems necessary to do not make the same mistakes. To achieve this goal, better research in advance on picking a neighborhood to collect the data, may be a solution. This can be done by choosing a neighborhood with a larger total population, so that more people will fill in the survey and by choosing a neighborhood with a good registration of the residents, so that an a-select sample can be taken.

Also is there other research necessary to collect information about the influence of distrust in the government on the relation between social capital and collective action, in contrast to what was mentioned in advance. It seemed that the found results were not useful to provide enough knowledge on this subject, mainly because of the governmental measurements that were not set out well. In follow-up research it may be useful to choose a neighborhood where these governmental measurements are well, but the distrust in government is high. In this way also this relation can be tested.

At last it may be useful to test also other design principles of Ostrom in an urban context. In this research is chosen to just pick some of the principles to ask questions about, mainly because otherwise the survey would take too long. In follow-up research it can be useful to just focus only on these governmental measurements and in this way ask more questions about these governmental design principles.
References


Zomeren, M. van, Saguy, T., & Schellhaas, F. M. H. (2013). Believing in “making a difference” to collective efforts: Participative efficacy as a unique predictor of collective action. Group Processes & Intergroup Relations, 16, 618-634
Attachments

Attachment A: Survey

This is the layout of the conducted survey in Eulji-ro, Seoul.

Introduction:

Hello,

We are students from the Ewha Womans University and Radboud University (The Netherlands) and we are working together on a student project about the future development of this neighborhood. Your opinion is important for our project, specifically for you as either an entrepreneur working in this area or as a resident living here. With the following statements we would like to learn about your opinions, so we can represent your views on what is best for this neighborhood. Your response will be anonymous and treated completely confidential, the results will only be used for research purposes and will not be distributed in any other form. The survey will take circa 7 minutes to complete.

Thank you for your cooperation!

General Questions:

- **Q1:** What is your age?
  A1. 0-17
  A2. 18-30,
  A3. 31-45
  A4. 46-60
  A5. 61->

- **Q2:** What gender do you identify as?
  A1. male
  A2. female
  A3. other

- **Q3:** What is your employment status?
  A1. employed full time
  A2. employed part time
  A3. unemployed
  A4. student
  A5. retired

- **Q4:** What is your relation to this neighborhood?
  A1. resident
  A2. entrepreneur
  A3. employee
  A5. both resident and work

- **Q5:** In which scale is your neighborhood network?
  A1. Alley
  A2. Block
  A4. Elsewhere
- **Q6:** What type of entrepreneur do you identify as?
  A1. Creative
  A2. Restaurant
  A3. Retail
  A4. Manufacturing

- **Q7:** Where are you located?
  A1. Block 2
  A2. Block 3
  A3. Block 4
  A4. Block 5
  A5. Block 6.1
  A6. Block 6.2
  A7. Block 6.3
  A8. Block 6.4
  A9. Sewoon Sangga
  A10. Cheongye Sangga
  A11. Daerim Sangga
  A12. Sampung Sangga
  A13. PJ Hotel
  A14. Sinseong Sangga
  A15. Jinyang Sangga
  A16. N/a

- **Q8:** How long have you been located in the neighbourhood?
  A1. 0-2 years
  A2. 2-5 years
  A3. 5-10 years
  A4. 10-20 year
  A5. 20 years or more

- **Q9:** Do you own or rent property?
  A1. Rent
  A2. Own

**Participation in Collective Action:**

- **Q10:** I am content with the current state of the neighbourhood.
- **Q11:** I worry about the development of the area.
- **Q12:** The government informs me on developments in this neighbourhood (for example public hearings, social media, news, etc.).
- **Q13:** I have participated recently (the past 5 years) in activities to help improve the neighbourhood.
- **Q14:** I have invested a lot of time in neighbourhood improving activities.
- **Q15:** I have invested a lot of money in neighbourhood improving activities.

**Factors that indicate extent of collective action**

**Government**

- **Q16:** The government enables me to improve the neighbourhood (for example: subsidies, legal help, laws).
- **Q17:** I know which institution to contact if I want to improve the neighbourhood.
- **Q18:** I think my opinion is taken seriously by governmental institutions.
- **Q19:** Regulations and/or laws restrict me to improve the neighbourhood.

**Neighbours**
- **Q20:** I often talk with people in the neighbourhood.
- **Q21:** I have a lot of friends in the neighbourhood.
- **Q22:** I feel a sense of community in the neighbourhood.
- **Q23:** I activate other people to help improve the neighbourhood.
- **Q24:** I trust my network to make right decisions regarding the developments in the neighbourhood.
- **Q25:** I told my neighbours about my plans for developments.
- **Q26:** There is a community neighbourhood organisation or community leader who helps me with the development of the neighbourhood.

**Personal**
- **Q27:** I think I can help improve the neighbourhood.
- **Q28:** I am willing to participate in improving the neighbourhood.
- **Q29:** I don’t care what the government does with the neighbourhood as long as I am well compensated (For example: financially, housing, business opportunities).
- **Q30:** I fear to be financially damaged by the redevelopment of the neighbourhood.
- **Q31:** On what scale are you most likely to invest in time, money and/or effort? (More answers are possible)
  A1. Individual property
  A2. Shared investment in public space
  A3. Shared investment in block where you are located
  A4. Shared investment in the neighbourhood

**Other Questions**
- **Q32:** What is your current living situation?
  A1. Solitary
  A2. With partner
  A3. Family
  A4. With roommate(s)
  A5. Other
- **Q33:** What is your highest achieved educational title?
  A1. none
  A2. primary school
  A3. middle school
  A4. vocational high school
  A5. general high school
  A6. junior college
  A7. university
  A8. I do not want to answer this question
- **Q34:** What is your annual net income?
  A1. 0-15.000.000 won
  A2. 15.000.001-30.000.000 won
  A3. 30.000.001-45.000.000 won
  A4. 45.000.001-60.000.000 won
  A5. 60.000.001+ won
  A6. I do not want to answer this question
Thank you for your cooperation.

**Attachment B: Descriptive statistics**

In this attachment will be given an overview of the used data for the results of the descriptive statistics. This will be done by presenting the frequency tables of all of the general questions.

### What is your age?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
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<tr>
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<td>.4</td>
</tr>
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<td></td>
<td>18 - 30</td>
<td>20</td>
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<td>31 - 45</td>
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<td></td>
<td>61 +</td>
<td>67</td>
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<td>Total</td>
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### What gender do you identify as?

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<thead>
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<th></th>
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<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<tbody>
<tr>
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<td>79.6</td>
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<td>56</td>
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<td>Total</td>
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### What is your employment status?

<table>
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<tr>
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<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>91.6</td>
<td>92.6</td>
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<tr>
<td></td>
<td>employed part time</td>
<td>13</td>
<td>4.6</td>
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<td>unemployed</td>
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<td>.7</td>
<td>.7</td>
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<tr>
<td></td>
<td>student</td>
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<td>1.1</td>
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<tr>
<td></td>
<td>retired</td>
<td>3</td>
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<tr>
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<td></td>
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<td>285</td>
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<td></td>
</tr>
</tbody>
</table>
### What is your relation to this neighbourhood?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid resident</td>
<td>2</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>entrepreneur</td>
<td>209</td>
<td>73.3</td>
<td>73.9</td>
<td>74.6</td>
</tr>
<tr>
<td>employee</td>
<td>64</td>
<td>22.5</td>
<td>22.6</td>
<td>97.2</td>
</tr>
<tr>
<td>both resident and work</td>
<td>8</td>
<td>2.8</td>
<td>2.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>263</td>
<td>99.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>2</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>265</td>
<td>100.0</td>
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<td></td>
</tr>
</tbody>
</table>

### What type of entrepreneur do you identify as?

<table>
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<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Creative</td>
<td>11</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Restaurant</td>
<td>11</td>
<td>3.9</td>
<td>3.9</td>
<td>7.9</td>
</tr>
<tr>
<td>Retail</td>
<td>152</td>
<td>53.3</td>
<td>54.5</td>
<td>62.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>105</td>
<td>35.8</td>
<td>37.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>279</td>
<td>97.9</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>6</td>
<td>2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
<td>100.0</td>
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<td></td>
</tr>
</tbody>
</table>

### Where are you located?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
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<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid block 2</td>
<td>34</td>
<td>11.9</td>
<td>12.1</td>
<td>12.1</td>
</tr>
<tr>
<td>block 3</td>
<td>31</td>
<td>10.9</td>
<td>11.1</td>
<td>23.2</td>
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<tr>
<td>block 4</td>
<td>32</td>
<td>11.2</td>
<td>11.4</td>
<td>34.6</td>
</tr>
<tr>
<td>block 5</td>
<td>48</td>
<td>16.8</td>
<td>17.1</td>
<td>51.8</td>
</tr>
<tr>
<td>block 6.1</td>
<td>50</td>
<td>17.5</td>
<td>17.9</td>
<td>69.6</td>
</tr>
<tr>
<td>block 6.2</td>
<td>16</td>
<td>5.6</td>
<td>5.7</td>
<td>75.4</td>
</tr>
<tr>
<td>block 6.3</td>
<td>6</td>
<td>2.1</td>
<td>2.1</td>
<td>77.5</td>
</tr>
<tr>
<td>block 6.4</td>
<td>15</td>
<td>5.3</td>
<td>5.4</td>
<td>82.9</td>
</tr>
<tr>
<td>Seun Sangga</td>
<td>36</td>
<td>12.3</td>
<td>12.5</td>
<td>95.4</td>
</tr>
<tr>
<td>Cheonggye Sangga</td>
<td>13</td>
<td>4.6</td>
<td>4.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>280</td>
<td>98.2</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>5</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
<td>100.0</td>
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</tbody>
</table>
### For how long have you been located in the neighbourhood?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2 years</td>
<td>29</td>
<td>10,2</td>
<td>10,2</td>
<td>10,2</td>
</tr>
<tr>
<td>2-5 years</td>
<td>21</td>
<td>7,4</td>
<td>7,4</td>
<td>17,6</td>
</tr>
<tr>
<td>5-10 years</td>
<td>35</td>
<td>12,3</td>
<td>12,3</td>
<td>20,9</td>
</tr>
<tr>
<td>10-20 years</td>
<td>58</td>
<td>20,4</td>
<td>20,4</td>
<td>50,4</td>
</tr>
<tr>
<td>20 years or more</td>
<td>141</td>
<td>49,5</td>
<td>49,6</td>
<td>100,0</td>
</tr>
<tr>
<td>Total</td>
<td>284</td>
<td>99,6</td>
<td>100,0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
<td>100,0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Do you own or rent property?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent</td>
<td>251</td>
<td>93,1</td>
<td>89,3</td>
<td>89,3</td>
</tr>
<tr>
<td>Own</td>
<td>30</td>
<td>10,5</td>
<td>10,7</td>
<td>100,0</td>
</tr>
<tr>
<td>Total</td>
<td>281</td>
<td>93,6</td>
<td>100,0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>1,4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
<td>100,0</td>
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<td></td>
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</table>

### What is your current living situation?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
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<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>solitary</td>
<td>19</td>
<td>5,7</td>
<td>6,7</td>
<td>6,7</td>
</tr>
<tr>
<td>with partner</td>
<td>64</td>
<td>22,5</td>
<td>22,5</td>
<td>29,2</td>
</tr>
<tr>
<td>with family</td>
<td>181</td>
<td>63,5</td>
<td>63,7</td>
<td>93,0</td>
</tr>
<tr>
<td>with roommate(s)</td>
<td>2</td>
<td>.7</td>
<td>.7</td>
<td>93,7</td>
</tr>
<tr>
<td>other</td>
<td>18</td>
<td>5,3</td>
<td>6,3</td>
<td>100,0</td>
</tr>
<tr>
<td>Total</td>
<td>284</td>
<td>99,6</td>
<td>100,0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
<td>100,0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Attachment C: Cronbach’s alpha test

This attachment gives an overview of the executed Cronbach’s alpha test on the three compound variables, with information which Cronbach’s alpha you get, when the item is deleted.

Governmental design principles:
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Scale Mean if Item Deleted</th>
<th>Scale Variance if Item Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The government informs me on the developments in this neighborhood (for example: public hearings, social media, news, etc.) -1</td>
<td>13.9855</td>
<td>74.757</td>
<td>.456</td>
<td>.639</td>
</tr>
<tr>
<td>2</td>
<td>The government enables me to improve the neighborhood (for example: subsidies, legal help, laws) -1</td>
<td>14.8772</td>
<td>89.407</td>
<td>.568</td>
<td>.580</td>
</tr>
<tr>
<td>3</td>
<td>I know which institution to contact if I want to improve the neighborhood -1</td>
<td>14.0812</td>
<td>68.956</td>
<td>.522</td>
<td>.608</td>
</tr>
<tr>
<td>4</td>
<td>Regulations and/or laws restrict me to improve the neighborhood -1</td>
<td>13.3600</td>
<td>85.846</td>
<td>.250</td>
<td>.716</td>
</tr>
<tr>
<td>5</td>
<td>There is a community organization or community leader who helps me with the development of the neighborhood -1</td>
<td>14.4702</td>
<td>77.757</td>
<td>.423</td>
<td>.652</td>
</tr>
</tbody>
</table>

Social capital:
<table>
<thead>
<tr>
<th>Item</th>
<th>Scale Mean if Item Deleted</th>
<th>Scale Variance if Item Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach’s Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>I trust my network to make right decisions regarding the developments in the neighbourhood - 1</td>
<td>43.4316</td>
<td>162.014</td>
<td>.344</td>
<td>.716</td>
</tr>
<tr>
<td>I told my neighbours about my plans for developments - 1</td>
<td>43.3439</td>
<td>148.543</td>
<td>.458</td>
<td>.692</td>
</tr>
<tr>
<td>I often talk with people in the neighbourhood - 1</td>
<td>41.0035</td>
<td>155.565</td>
<td>.567</td>
<td>.676</td>
</tr>
<tr>
<td>I have a lot of friends in the neighbourhood - 1</td>
<td>41.5544</td>
<td>150.163</td>
<td>.561</td>
<td>.672</td>
</tr>
<tr>
<td>I feel a sense of community in the neighbourhood - 1</td>
<td>41.5825</td>
<td>143.202</td>
<td>.669</td>
<td>.649</td>
</tr>
<tr>
<td>I activate other people to help improve the neighbourhood - 1</td>
<td>43.1865</td>
<td>140.765</td>
<td>.539</td>
<td>.675</td>
</tr>
<tr>
<td>I am content with the current state of the neighbourhood</td>
<td>43.1228</td>
<td>183.228</td>
<td>.085</td>
<td>.761</td>
</tr>
<tr>
<td>I worry about the developments of the area</td>
<td>41.6702</td>
<td>169.762</td>
<td>.223</td>
<td>.741</td>
</tr>
</tbody>
</table>

Collective action:
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Scale Mean If Item Deleted</th>
<th>Scale Variance If Item Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach’s Alpha If Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have participated recently (the past 5 years) in activities to help improve the neighbourhood - 1</td>
<td>16.5000</td>
<td>40.500</td>
<td>1.000</td>
<td>0.891</td>
</tr>
<tr>
<td>I have invested a lot of time in neighbourhood improving activities - 1</td>
<td>16.5000</td>
<td>40.500</td>
<td>1.000</td>
<td>0.891</td>
</tr>
<tr>
<td>I have invested a lot of money in neighbourhood improving activities - 1</td>
<td>16.5000</td>
<td>40.500</td>
<td>1.000</td>
<td>0.891</td>
</tr>
<tr>
<td>I am willing to participate in improving the neighbourhood - 1</td>
<td>13.0000</td>
<td>72.000</td>
<td>1.000</td>
<td>0.778</td>
</tr>
<tr>
<td>On what scale are you most likely to invest in time, money and/or effort? (More answers are possible) individual property</td>
<td>18.5000</td>
<td>84.500</td>
<td>1.000</td>
<td>0.828</td>
</tr>
<tr>
<td>On what scale are you most likely to invest in time, money and/or effort? (More answers are possible) shared investment in public space</td>
<td>18.5000</td>
<td>84.500</td>
<td>1.000</td>
<td>0.828</td>
</tr>
<tr>
<td>On what scale are you most likely to invest in time, money and/or effort? (More answers are possible) shared investment in block where you are located</td>
<td>18.5000</td>
<td>84.500</td>
<td>1.000</td>
<td>0.828</td>
</tr>
<tr>
<td>On what scale are you most likely to invest in time, money and/or effort? (More answers are possible) shared investment in the neighbourhood</td>
<td>18.5000</td>
<td>84.500</td>
<td>1.000</td>
<td>0.828</td>
</tr>
</tbody>
</table>