Local social capital and mobility in rural areas

A quantitative research on the influence of local social capital on the mobility of people living in the rural areas in the municipality of Heerenveen

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Summary

Local social capital might have an influence on the mobility of people living in rural areas. In this research is examined how the local social capital has an influence on mobility of the people living in the rural parts of the municipality of Heerenveen. The central question is: '*How does local social capital influence mobility in rural areas in the municipality of Heerenveen?'*. This is done by using a quantitative research method. In a questionnaire survey questions are asked about the local social capital and mobility of the respondents. By doing a multiple linear regression, Pearson correlation and Spearman's rho correlation analyses, is assessed if the local social capital has an influence on the mobility in the certain area.

It seems that the local social capital for the people in this area is high and quite similar for the respondents. This is different for the mobility, which varies a lot between the respondents in the research. Nevertheless, the respondents do almost all feel strongly mobile. This suggests there is a difference between objective and perceived mobility.

When conducting the statistical analyses, no significant relationship between local social capital and mobility is found. This suggests there is no relationship between local social capital and mobility for the people living in the rural areas of the municipality of Heerenveen.

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Chapter 1: Introduction

1.1 Background

In the Netherlands, the rural population makes up about 30% of the population. Since 2010, the population living in the rural areas is decreasing, while the population living in the urban areas is increasing (Steenbekkers et al., 2017; Elshof et al., 2014). This is confirmed by figures and reports of the 'Centraal Bureau voor de Statistiek (CBS)' and reports of the 'Planbureau voor de Leefomgeving (PBL) in which can be seen that the urban areas grow and rural areas decrease when looking at the development of the population (PBL, 2015; CBS, 2019; PBL/CBS, 2016).

According to Argent et al. (2007), the migration to or out of rural areas is mainly influenced by their accessibility and the presence of amenities. Mobility influences accessibility and can be seen as one element of accessibility (Gray et al., 2006). From here, can be said that mobility, in turn, could have an influence on the population decline or growth.

According to CROW (2018) mobility is a much-discussed topic by the rural residents themselves. Mobility in the Dutch rural areas is important because the average distance to facilities is generally higher than in the urban areas (Tillema et al., 2019). Also, in rural areas, less public transport is offered than in urban areas. For example, in the rural areas of the Province Friesland. Since 2012, the number of bus trips has declined (Noordelijke Rekenkamer, 2017).

Gray et al. (2006) argue that in general, the degree of mobility of people living in rural areas has increased because of increasing private car ownership. The accessibility disadvantages in rural areas are also much less than a few decades ago. Still, in some areas, the mobility of people decreases because of the decline in services (Platform 31 & ZB Planbureau, 2017). Factors in the local area, such as a lack of available public transport and local services, encourage social exclusion (Lucas, 2012). When looking at mobility, also the perceived mobility has to be considered (Tillema et al., 2019). A distinction can be made between the willingness to make movements and being able to make movements (Goorman, 2008).

Gray et al. (2006) and Nutley (2005) suggest that local social networks and social capital are important determinants for the mobility of groups. They state that this social capital in areas and communities will arise, when locations and socialities overlap in terms of memberships and spatialities. This higher social capital will lead to a higher mobility. Additionally, Rosso et al. (2014) argue that social interactions and social capital within one's neighbourhood can have a positive or negative impact on the mobility of people.

Despite the importance of the relationship between social capital and mobility of people living in rural areas, little research has been done on this theme (Gray et al., 2006; Rosso et al., 2014). Furthermore, much of recent research on mobility has focused on the city and less attention is given to the mobilities in rural areas (Milbourne & Lawrance, 2014). Therefore, a better insight in how local social capital influences the mobility of people living in rural areas is needed.

In this research, the influence of local social capital on the mobility of people living in rural areas in the municipality of Heerenveen, which is in the province of Friesland, will be examined. Therefore, the local social capital and the mobility of people living in rural areas will be assessed first.

1.2 Research problem

The aim of this research is to gain more knowledge about how local social capital influences the mobility of people living in rural areas in the municipality of Heerenveen. This will be done by assessing the local social capital and the mobility of the population first. Afterwards, this research will look at the relationship between these two.

The central question in this research will be: '*How does local social capital influence mobility in rural areas in the municipality of Heerenveen?'*

Three secondary questions have to be answered in order to answer the central question of this research. These secondary questions are as follows:

- What constitutes the local social capital of people living in rural areas in the municipality of Heerenveen?
- What constitutes the mobility of people living in rural areas in the municipality of Heerenveen?
- How do people living in the rural areas in Heerenveen perceive their own mobility?

In this research is expected local social capital has an influence on mobility. Previous research suggests that this could be in either a positive or a negative way (Gray et al. 2006; Nutley (2005); Rosso et al., 2014).

1.3 Structure thesis

In the first part of this thesis, the theoretical framework, including the important concepts, is discussed and the conceptual model is explained. In chapter 3, the methodology is discussed. In chapter 4, the results are shown. The researcher critically reflects on the results and the research process in chapter 5. In chapter 6, conclusions are made based on this research and in chapter 7, the researcher gives recommendations for further research. After the recommendations, the references and the appendix, including the questionnaire survey, the output from the SPSS analyses and a table of the variables used for the SPSS analyses can be found.

Chapter 2: Theoretical framework

2.1 Social capital

Social capital includes the system of relations and connections between people in a group. (Coleman, 1988). Putnam (1993) speaks about the concept social capital as the characteristics of social organization such as trust, social norms and networks. These aspects enable actors to act jointly and actively in order to provide common goals. Social capital is particularly important in collective actions and can facilitate in achieving goals for mutually benefits. Connections and relationships lead to the creation of new networks, norms, values, reciprocity and trust. These creations can bind individuals together for their mutual benefit (Gray et al., 2006; Rosso et al, 2014).

In this research, the local social capital is defined as the connections and relationships among and between individuals in an area. This definition, based on Gray et al. (2006), is chosen because this definition is used in a research which is also about mobility and its relationship with social capital. Besides, the research involves rural transport and in this research will also be looked at rural transport. The focus is on the social capital on the local scale.

A good way for measuring this local social capital is to look at the determinants reciprocity, civic trust and group participation. Reciprocity can be defined as the 'helpfulness of others'. It can be assessed by looking at non-monetary debts and credits that accumulate through a community, for example: When neighbours exchange favours. Civic trust is about the trust people have in others in their community. The aspect group participation is about group membership, such as membership of voluntary associations (Pollack & Von dem Knesebeck, 2004). To assess these three determinants, five questions which represent the aspects can be asked. These five questions are about: willingness of people to help (Kawachi, et al., 1998), working together (Macinko and Starfield., 2001), the feeling of belonging (Kawachi et al., 1998), the trust in people (Putnam, 1993; Kawachi et al. 1998) and the participation of local groups in the neighbourhood (Putnam, 1993; Harpham et al., 2002).

Gieling (2018) states it is unclear to what extent there is still a lot of local social cohesion and local social capital in the Dutch rural areas. He speaks about the 'discourse of loss', which points out that there is a decrease in the local involvement. An increasing number of mobile residents would mainly have a consumer and residential relationship with their village. The main part of their social life would be outside the village. Yet, according to Steenbekkers et al. (2017), the social capital is still significant higher in rural areas than in urban areas.

2.2 Mobility

In this research the focus is on geographical mobility, the movements, of people. Movements are commonly operationalized in terms of crossing administrative boundaries, functional regions, or in terms of distance (Niedomysl and Fransson, 2014). The mobility in this research is defined as 'the ability of individuals to move around' (Gray et al., 2006, p. 89).

According to Olde Kalter et al. (2010) various individual factors can influence the mobility of the Dutch population. The mobility of the Dutch differs per age and can differ per gender (Tillema et al., 2019). In addition, the mobility of people is related to the travel time. In this way, distance to train station, highway and distance to bus stop are factors that could influence the mobility of people (Lättman et al., 2016).

When it comes to accessibility, there is no big problem in the rural parts of the Netherlands according to international norms, due to the relatively high population density and well-developed road- and public transport system (Tillema et al. 2019). Still, in some areas with population decline, the accessibility of amenities and services becomes lower and they are at greater distance then before. The public transport decreases in these areas and this leads to a lower mobility of people living in those areas (Platform 31 & ZB Planbureau, 2017).

Looking at previous research on mobility in the Netherlands, an important research is the 'Mobiliteitsonderzoek Nederland (MON)'. The MON is a research about the mobility of the Dutch population and is done by the 'Sociaal en Cultureel Planbureau (SCP)'. It looks at the 'normal' daily mobility of people. In the MON, the respondents are asked to give information about their travel behaviour via a questionnaire (Rijkswaterstaat, 2007). When looking at the data, there is no data on the municipality level; the lowest scalar level is the province level (CBS, 2018).

Another way of looking at mobility, is to look at how people actually perceive the distance and accessibility of facilities and their own mobility. It could be, that residents living in rural areas with relatively high distances to facilities, do not see this as a problem and perceive themselves as mobile (Tillema et al., 2019). For instance, a relative high number of rural residents in Groningen does not mind to travel a higher distance to facilities, while urban residents do; not even 20 percent of the rural residents believes that they need a supermarket within 1 km from their residence, in opposite to the 43 percent of the urban residents (SPG, 2013).

According to Vitman-Schorr et al. (2017), there is a difference between objective and perceived distances. While objective distances are usually measured in traveling distance and time, perceived distances and accessibility represent feelings, satisfaction, expectations and perceptions. The perceived accessibility is influenced by the socio-economic and sociodemographic characteristics of an individual. When it comes to the travel behaviour of people, a distinction can be made between willingness to make moves and being able to make moves (Goorman, 2008).

2.3 Rural areas in the Netherlands

In general, there are three main approaches to look at the rural; descriptive, sociocultural and social representation. The descriptive approach is about population density, land use and functionality. The sociocultural approach is about the behaviour of the residents and communities in the rural areas. Lastly, the social representation is about 'the rural' as a social construction; it is about how different groups emphasize the different views of the rural (Woods, 2010). In this research the rural areas are selected based on the descriptive approach; there is looked at population density.

In the Netherlands, there has always been a difference between the way of living in urban and rural areas, but the differences between urban and rural are less than people generally expect (Steenbekkers et al., 2017). The differences between urban and rural areas are becoming smaller in Western Europe (Antrop, 1999). Besides, Steenbekkers et al. (2017) state, the differences between living in urban and rural areas still exist, but do not become bigger. When comparing the rural areas in the Netherlands to rural areas in other EU countries, the Dutch rural areas are doing relatively well. The number of people living in poverty is relatively low. Additionally, the employment rate is relatively high and the number of people with a higher level of education is increasing (Copus et al., 2006; Steenbekkers et al.,2006).

Nevertheless, also in the Netherlands, many rural areas lag behind in some ways, for example, as mentioned before, the mobility decreases in some parts as a result of lower accessibility of amenities and services and a decrease in public transport (Platform 31 & ZB Planbureau, 2017). In the following paragraph, the theories and concepts discussed above, and their relation to each other are visualised in the conceptual model.

2.4 Conceptual model

The conceptual model shown below is a visual presentation of the concepts and the relationships between these concepts in this research. On the left, the three determinants for local social capital, based on Pollack & Von dem Knesebeck (2004), can be seen. In the middle, the local social capital and the respondent characteristics are shown. The question is if the local social capital influences the mobility, based on the MON 2006 (Rijkswaterstaat, 2007), shown on the right side of the conceptual model. It is expected that the respondent characteristics will also affect the mobility of the respondents (Older Kalter et al., 2009; Tillema et al., 2019; Cloke, 1984; Lättman et al., 2016).

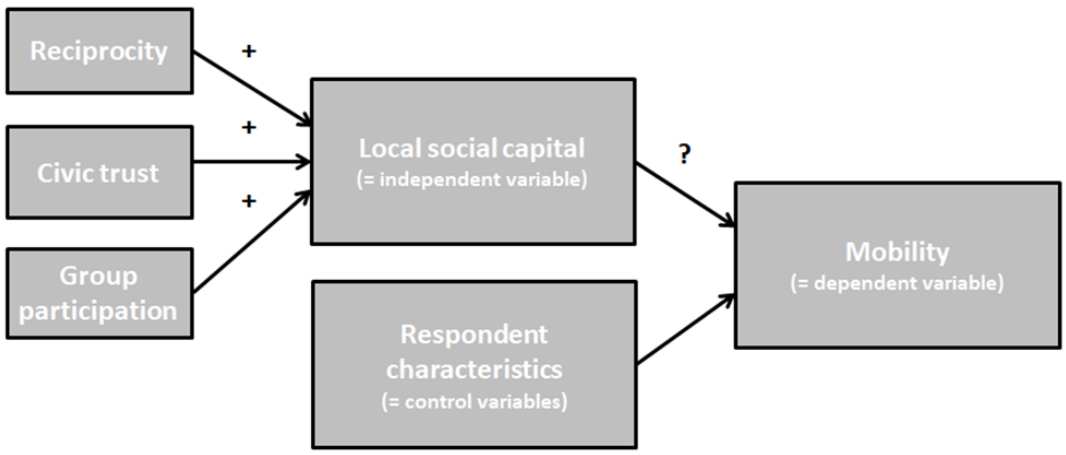


Figure 1: Conceptual model
Source: Own research

Chapter 3: Methodology

3.1 Data collection instrument

In order to examine how the local social capital influences the mobility of people living in the rural areas of the municipality Heerenveen, an empirical research method is used. Data collection is done by using a questionnaire survey. In geography, questionnaire surveys are used to look at people's perceptions, behaviours and spatial interactions in diverse geographical contexts. Moreover, questionnaire surveys are useful for exploring social networks, travel patterns and the quality of the neighbourhood (Clifford et al. 2010). This makes this method appropriate for this research. The questionnaire survey can be found in appendix 1 and consists of four parts. In the first part, the respondent characteristics, age, gender, residence, distance to train station, distance to highway and distance to bus stop, are asked. Questions about local social capital are asked in part 2 and questions about mobility are asked in part 3. Lastly, in part 4, the respondent has to agree with the fact that his/her answers are used for this research.

To assess the local social capital, the five questions representing the aspects reciprocity, civic trust and group participation, are asked. The questions can be answered on the Likert scale: from 1 'strongly disagree' to 5 'strongly agree' (Rosso et al, 2014). This way of measuring local social capital is used because it makes it possible to measure the broad concept local social capital by asking five relatively simple questions. The respondents do not necessarily have to know much about this concept for filling in the questionnaire survey and filling in the questionnaire survey will not take a lot of time.

In this research, the mobility is expressed in five aspects. The aspects are as follows: the occurrence of movements, the distance of movements (in km), the (number of) means of transport, the (number of) reasons for movement and how people perceive their own mobility. For assessing these aspects of mobility, questions similar to questions in the MON are asked. The perceived mobility is measured on a Likert scale from 1 'strongly disagree' to 5 'strongly agree'. However, there are more aspects that could be considered when looking at mobility, in this research is chosen to look at these particular five aspects, because of time constraints, to keep the research achievable.

3.2 Ethical considerations

Thinking about ethical considerations is important when collecting data (Clifford et al. 2010). Firstly, participating in this research is voluntary. Second, the aim is to keep all data anonymous. The respondents did not have to fill in their names in the questionnaire surveys and the respondents can choose to pass some respondents characteristics questions. There is asked if the respondents agree with the fact that the data is used for this research. Also, the respondents are given information about the researcher, the research and the goal of the research. The data gained by the questionnaire surveys is only used for this research and the database with all the data is only available for people who are necessary for this research.

3.3 Recruitment of participants

In this research, the population is: The people living in the rural areas in the municipalities of Heerenveen. For the data collection, an online version (Google Forms) of the questionnaire survey is distributed via social media. Besides, the researcher has been standing in front of supermarkets in villages in the municipality of Heerenveen with an online and a paper version of the questionnaire survey to ask people if they wanted to fill in the questionnaire survey. The respondents did fill in the questionnaire survey themselves. Besides, both the online and paper version questionnaire surveys, exist of the same parts and questions. For this reasons, it is expected, there will not be a big difference between the answers given on the online and paper version. Both ways of data collection can be seen

as a way of convenience sampling, but there has to be considered that people who do know the researcher do have a bigger change to fill in the questionnaire survey distributed via social media.

3.4 Data storage and analysis

In this research, the data gained by the online and paper version of the questionnaire survey is stored in Excel. The local social capital is the independent variable and the mobility, expressed in the five different aspects, is the independent variable. The first secondary question '*What constitutes the local social capital of people living in rural areas in the municipality of Heerenveen?*' is answered by looking at frequencies, percentages and average answers.

The mobility exists of five different aspects which are as mentioned in paragraph 3.1. The first four aspects are measured on a ratio scale. The fifth aspect, perceived mobility, is measured on an ordinal scale. The second and third secondary questions '*What constitutes the mobility of people living in rural areas in the municipality of Heerenveen?*' and '*How do people living in the rural areas in Heerenveen perceive their own mobility'?* are again answered by looking at frequencies, percentages and average answers.

To give an answer on the central research question, statistical analyses (SPSS) are used. The analyses are also used to examine if it is, based on this research, possible to say if there is a significant relationship for the whole population. All statistical tests will use a confidence interval of 95 percent. For examining if the local social capital has an influence on the mobility, the influence of the local social capital on the five mobility aspects is measured apart from each other. In order to do this, a multiple linear regression is done.

To use the local social capital based on these five questions for this analyses, counting is done. For every respondent is counted how many times the respondent has answered '4'or '5'on a question. The total number of times the respondent answered '4' of '5', is the value, which is ratio scale, for the local social capital. It is chosen to count the answers '4' and '5' because during the data collection, the researcher noticed the respondents hesitated between the answer '4' and '5' a lot and just chose one of these two.

Multiple regression is used because this way of analysis makes it possible to look if there is a connection between local social capital and mobility, but also because it is possible to look if the local social capital has a predictive power for mobility. Besides, control variables can be taken into account. In this multiple regression, the respondent characteristics are used as control variables. When, after using the multiple regression, no significant relationship is found between local social capital and the aspects of mobility, the researcher wants to measure if there is a significant correlation. This is done by using a Pearson correlation test.

For assessing if there is a significant correlation between local social capital and perceived mobility, a Spearman's rho correlation test is done. For doing this, the ratio variable local social capital is transformed in an ordinal variable by making three groups: low, middle, high.

Chapter 4: Results

4. 1 Characteristics respondents

The questionnaire survey is completed by 54 respondents in total. Three respondents are removed from the dataset, because they did not live in the rural areas of the municipality of Heerenveen. In total, 26 women and 25 man are in the dataset. A relatively big group (59 percent) of the respondents is between the 45-65 years old, as can be seen in figure 2. Despite the fact that this age group is the biggest group, namely 29,2 percent, living in the municipality of Heerenveen (CBS, 2019), the number of people who within this age group who completed the questionnaire survey is still big. The respondents do live in fourteen different villages. On map 1 can be seen where the respondents live. When looking at map 2, there can be seen this is in rural areas with a low population density. There has to be mentioned that not all the respondents gave their ZIP-code. Therefore, not all the respondents are shown on this map.

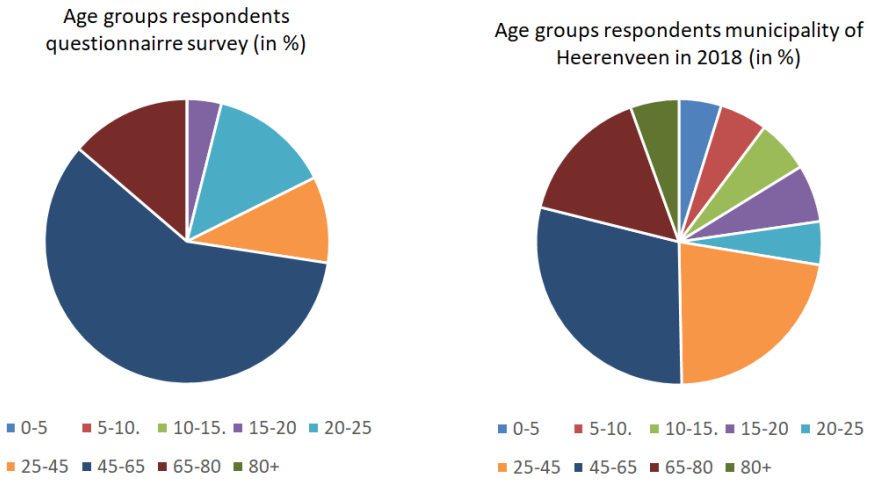
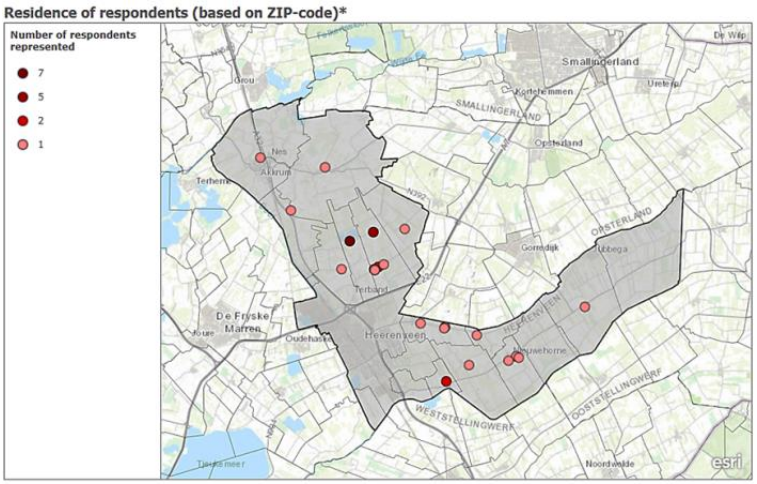
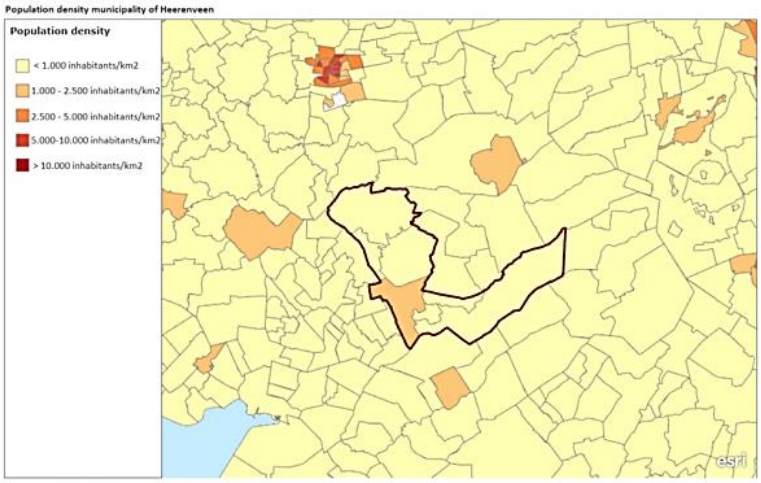


Figure 2: Age groups in questionnaire survey and in the municipality of Heerenveen
Source: CBS (2019) and Dataset



Map 1: Residence of respondents* (based on ZIP code)
* This map does not include all respondents.
Source: Own database



Map 2: Population density areas municipality of Heerenveen
Source: ArcGIS online

4.2 Local social capital

The local social capital of the people living in the rural areas of Heerenveen is assessed by asking five questions on Likert scale. In figure 3, the answers given on these five questions are shown. When looking at this figure, it is clear that many respondents gave the answer 4 and 5 a lot. Those answers signify a high local social capital in the dataset of this research.

Figure 3: Answers local social capital
Source: Dataset
Full questions from left to right:

- In my neighbourhood, people are willing to help neighbours with daily activities
- In my neighbourhood people work together to improve the neighbourhood
- I do feel like I belong and that I am part of my neighbourhood.
- I participate actively in local groups or organizations in my neighbourhood
- Most people in my neighbourhood can be trusted.

To make a value for local social capital, the number of times a respondent answered 4 or 5 is count. In this way, every respondent gets a value for local social capital between 0 and 5. As can be seen in table 1, the number of respondents answering 4 or 5, five times, is high, namely 41,2% of the respondents.

Times answered 4 or 5	Number of respondents (in %)
1	3,8
2	5,8
3	21,6
4	27,5
5	41,2

Table 1: Answers 4 and 5
Source: Dataset

According to Gieling (2018), a large part of people living in villages does have a strong bond with the village they live in. He states that mainly the social and scenic aspects do form a meaningful bond. This is in line with the answers on these questions; the questions do focus on the social aspect of the rural areas and the people give answers which signify a high value of local social capital. Also, when looking at literature written by Steenbekkers et al. (2017), which states the social capital is significant higher in rural areas than in urban areas, a high local social capital seems logical. This results do not match with the idea of the 'discourse of loss', in which is pointed about that there is a decrease in the local involvement (Gieling, 2018).

4.3 Mobility

A big variety in the occurrence of movements made by the respondents is found. The average number of movements made is 12,2 in one week, but the answers given range from 0,0 to 45,0.

The second aspect of mobility is the total distance of movements made in one week. It seems that also for this aspect, there is a big difference between people in the population. The average distance of movement made by the respondents is 256,2 km/week and the answers range between 2,0 and 1200,0 km/week.

The big variety between the respondents when it comes to these two aspects, might be explained by the fact that rural areas are largely heterogeneous. Different households, household members and localities are in these rural areas. This leads to different combinations of journey-making opportunities and constraints (Gray, 2006).

In contrast to the two aspects discussed above, the number of means used for transport are less diverse within the group of respondents. Most of the respondents (71,1 percent) use one or two means of transportation. According to Gray et al. (2006) and Pucher & renne (2005), people in rural areas are becoming more and more dependent on private car. When looking at the answers of the questionnaire survey, the car is the means of transport used most frequently. Namely, 76,5 percent of the respondents uses car as a means of transport. When looking at the 'MON 2006', the car is also the most frequently used means of transport (Rijkswaterstaat, 2007).

Also the total number of reasons for movement is less diverse. On average, the respondents do have 3,4 reasons for making movements and the answers range from one to eight reasons. A relatively big part of the respondents (41,2 percent) has three reasons in one week for making movements.

4.4 Perceived mobility

When asking the respondents about their perceived mobility, the answers given are very comparable to each other. As shown in figure 4, 84,6 percent of the respondents answered 5,'strongly agree', on the question: '*I do have the feeling that I am mobile/can easily move from one place to another*'. Also, most of the respondents declare they do not want to travel more if they could and they do not think they would travel more if they would have better access to other means of transportation.

While there is a wide variety between the respondents when it comes to occurrence and distance of movements, almost all respondents do feel mobile and perceive themselves as a mobile person. An explanation for this could be the literature written by Goorman (2008), which states that a distinction can be made between willingness to make moves and being able to make moves. It could be that people in the rural areas in the municipality of Heerenveen who do have a low occurrence and distance of movements, do not want to make more movements and still feel mobile.

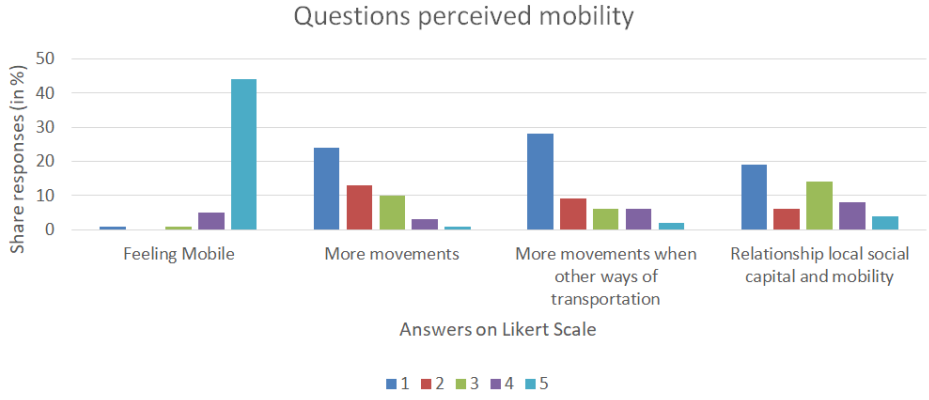


Figure 4: Answers perceived mobility
Source: Dataset
Full questions from left to right:

- I do have the feeling that I am mobile/ can easily move from one place to another.
- If I could, I would like to travel more in one week.
- If I had (better) access to other means of transport, I would travel more.
- I think local social capital (=common values, norms, activities and relationships in my village/neighbourhood) influences my mobility/ travel behaviour.

4.5 The influence of local social capital on the mobility

As shown in figure 4, most respondents do not think the local social capital influences their mobility or are neutral about this statement.

In order to use the multiple regression analyses, it is made sure that the dependent variable, mobility, is measured on ratio scale. A scheme including information about the variables and the proceedings which are done to use these variables for the multiple regression, can be found in appendix 3.

By using multiple regression, no significant relationship is found between local social capital and the first four aspects of mobility. In other words: There is no significant linear relationship between local social capital on the one hand, and 'the occurrence of movements' or 'the distance of movements' or 'the number of reasons for movements' or 'the number of different ways of transportation' on the other hand'. This is shown in table 2. The null hypotheses for the t-tests which states that *'there is no linear relationship between the dependent variable on the one hand, and the specific independent variable on the other hand'*, can be assumed for the multiple regression analyses for local social capital and the four aspects of mobility mentioned above.

For the aspects 'occurrence of movements' and 'number of reasons for movements', there is also no significant relationship found with one of the control variables. For the variable 'distance of movements', a significant relationship is found with gender (p= 0,015) and distance to train station (p=0,027). The adjusted R-square for this model is 0,196 which means 19,60% of the variance in the distance of movements can be explained by gender and the distance to train station.

Also, for the dependent variable 'total number of different ways of transportation' a significant linear relationship with some independent variables is found. The variable has a significant relationship with the variables age (p = 0,008) and distance to train station (p = 0,039). The adjusted R-square is 0,178 which means 17,80% of the variance in the distance of movements can be explained by age and the distance to train station. When looking at the Unstandardized Coefficients Beta, distance to train station has the highest predictive power for the distance of movements and the total number of means of transportation. The distance by train station is followed by gender for the distance of movements and by age for the means of transportation. All of these relationships are negative which means that, for example, a higher distance to train, leads to a lower distance of movements. The significant relationships found with age, gender and distance to train are in line with literature written by Tillema et al. (2019) and Lätmann et al., (2016).

Dependent variable	Adjusted R-square	p-value	Model significant?	Which variables do have a significant relationship?	Unstandardized coefficients Beta significant relationships
Occurrence of movements	-0,061	0,789	No	None	-
Distance movements	,196	0,014	Yes	Gender (p = 0,0015) Distance to train station (p = 0,027)	Gender: -0,331 Train station: -0,464
Total means of transportation	0,178	0,021	Yes	Age (p = 0,008) Distance to train station (p = 0,039)	Age: -0,375 Train station: -0,435
Total number of reasons for movements	0,080	0,137	No	None	-

Table 2: Outcomes multiple regression
Source: Dataset.

When conducting a Pearson correlation analysis, also no significant correlation between one of the four aspects discussed above, and the local social capital is found, as can be seen in table 3. By using a Spearman's rho correlation test, there is also no significant correlation found between local social capital and the perceived mobility, which is shown in table 4. Based on these correlation tests could be said that there is also no significant linear correlation between local social capital and one of the five aspects of mobility for the people living in the rural areas of the municipality of Heerenveen.

Variables	Correlation coefficient Pearson correlation	p-value	Significant correlation?
Local social capital + Occurrence of movements	0,187	0,190	No
Local social capital + Distance of movements	-0,031	0,829	No
Local social capital + Total number means of transportation	-0,132	0,355	No
Local social capital + Total number reasons for movement	0,056	0,694	No

Table 3: Outcomes Pearson correlation analysis
Source: Dataset

Variables	Correlation coefficient Spearman's rho	p-value	Significant?
Local social capital + Perceived mobility	0.062	0.666	No

Table 4: Outcome Spearman's rho correlation test
Source: Dataset

To summarize, there is no significant relationship and correlation found between local social capital and the five aspects of mobility discussed above. This is not in line with the literature from Gray et al. (2006) and Nutley (2006) which states the local social capital is an important determinant for the mobility of people living in rural areas. It is also not in line with Rosso et al. (2014) who state that social capital in someone's neighbourhood can have an impact on the mobility of people in a positive or negative way. Urry (2002) states the relationship between those two concepts is the other way around. He states that mobility influences social capital; high mobility would lead to low social capital. This could explain why there is no significant relationship found by using the multiple regression.

It is hard to find any other literature that also mentions there is no relationship between local social capital and mobility. This might be explained by the fact that, in general, science seeks for significant truths (Rosenberg, 2012). It would not be strange if, in general, it is seen as more interesting to publish research where a significant relationship is found, instead of where no significant relationship is found.

Chapter 5: Discussion

Thinking about the reliability of this research, some things have to be kept in mind. First of all, the age group 45-65 years old is relatively big. This could lead to a distorted image of the mobility and the local social capital in the population because one age-group is overrepresented.

Furthermore, when reflecting on the recruitment of the participants, it would not be strange if the people with lower local social capital do have fewer local social networks/relationships. In this way, when using this way of sampling, the people with lower local social capital are harder to reach which could lead to bias.

When thinking about the validity of the research, there has to be considered that both mobility and social capital are two broad concepts. This makes it hard to say if the way of assessing is able to measure the exact local social capital or mobility. To make sure the assessment is done is as good as possible, the researcher used ways of measuring which are used in previous studies. Still, the way of measuring the local social capital is quite simplified for this broad concept. It is based on only five questions, representing three determinants. Moreover, transforming the five ordinal questions to a ratio scale for local social capital by counting, leads to the fact that it is not possible to look at the determinants of social capital and their relationship with mobility apart from each other.

When conducting the multiple regression analyses, most of the control variables do not have a significant relationship with the mobility while it is expected they would. This is why the researcher conducted a Pearson correlation analyses later. In this way the relationship between local social capital and mobility is measured by using another analysis. When using a multiple regression model again, it might be useful to do more extensive research on the control variables.

In the end, no significant relationships or correlations are found, while the literature would suggest they would. This could be explained in three ways. First, it is possible, that the relationship between local social capital and mobility is not as unambiguous as suggested. Second, this relationship does not apply for the people living in the rural areas of Heerenveen. Third, this research is not sufficient to examine the relationship between these two concepts.

Chapter 6: Conclusions

In this research more knowledge is gained on how local social capital influences mobility of people living in rural areas in the municipality of Heerenveen. For doing this, the local social capital and mobility are assessed first.

The local social capital experienced by the people is relatively high. Besides, this variable is approximately similar for most of the people in the population. This is not in line with literature written by Gieling (2018), where is pointed about that in general there is a decrease in the local involvement in rural areas. Still, this result is in line with other statements of Gieling (2018) where he states that a part of people living in villages does still have a strong bond with the village they live in and that mainly the social and scenic aspects do form a meaningful bond.

There is a wide variety within the population when it comes to the mobility. Especially the occurrence of movements and the distance of movements are different for people within the population. Despite the fact that the mobility is very diverse, the mobility which the people experience, called the perceived mobility, is relatively high and very similar for the people living in the rural areas of Heerenveen. This could be explained by literature written by Goorman (2008), who states that there is a distinction between willingness to make moves and being able to make moves. Probably, the people who do not make a lot of moves, and because of that do not have a high mobility, also do not want to make more moves and feel mobile. In that way, their perceived mobility is high while their objective mobility is relatively low.

When looking at the main research question '*How does local social capital influence mobility in rural areas in the municipality of Heerenveen?',* based on this research, it might be concluded local social capital has no significant influence on the mobility of people living in the rural areas in the municipality of Heerenveen. Moreover, there could not be said there is a linear relationship between local social capital and mobility. This result is contradictory to the literature written by Gray et al. (2006) and Rosso et al. (2014), who suggest that local social capital is an important determinant for groups of people. Urry (2002) states the mobility influences local social capital instead of contrariwise. This could explain why there is no significant relationship found by using the multiple regression. No other literature supporting there is no relationship between the two concepts, is found. This might be explained by the fact that science seeks for significant truths (Rosenberg, 2012), and because of this, literature without significant relationships, are published less.

When considering the limitations mentioned in the discussion, there could be suggested the local social capital has no influence on the mobility of the people living in the rural areas of Heerenveen, but it is, based on this research, hard to come up with a clear conclusion. To make a clearer statement about how the local social capital influences the mobility in Heerenveen, further research is needed.

Chapter 7: Recommendations

For further research, it might be better to expand the sample, since a sample from 51 respondents is relatively small. Furthermore, it might be interesting to conduct this research in an area which is even more rural than the rural areas in Heerenveen.

Besides, when conducting a quantitative research again, it would be good to look at broader ways of measuring local social capital and mobility. Since, in this research, the two broad concepts local social capital and mobility are both measured with relative simple questions.

Furthermore, the data gained by the quantitative research, is relatively superficial. To get better insight in the concepts local social capital and mobility, and their relationship with each other, it might be useful to conduct a more explorative qualitative research. In this way, more and deeper information of this topic could be collected. Given the fact that no significant relationships and correlations are found, it might be said the relationship between local social capital and mobility might be more ambiguous than suggested. A qualitative research might help to get more insight in this relationship.

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Appendix

1. Questionnaire survey

Enquête
Het effect van lokaal sociaal kapitaal op de mobiliteit van mensen in dorpen/plattelandsgebieden in de gemeente Heerenveen.

Geachte meneer/mevrouw, mijn naam is Ilse de Vries. Voor mijn Bachelorproject van de studie 'Sociale Geografie en Planologie' aan de Rijksuniversiteit Groningen doe ik een onderzoek naar de invloed van lokaal sociaal kapitaal op de mobiliteit van mensen die wonen in dorpen/plattelandsgebieden in de gemeente Heerenveen.
Om dit te onderzoeken moet ik zelf data verzamelen. Ik hoop dat u mij een beetje wil helpen met het afronden van mijn Bachelorproject door deze enquête in te vullen.

In mijn onderzoek staat lokaal sociaal kapitaal voor de waarden en normen in netwerken en relaties van groepen mensen. In dit geval gaat het om de netwerken en relaties op lokaal niveau (dus in de buurt of in een dorp). Lokaal sociaal kapitaal maakt relaties in de buurt en in een dorp sterker, meer waardevol en effectiever. Omdat sociaal kapitaal niet tastbaar en zichtbaar is, is het natuurlijk lastig om echt goed voor u te zien. In dit onderzoek worden (in deel 2) vijf vragen gesteld waarmee ik het lokaal sociaal kapitaal probeer te bepalen.

Om mobiliteit van mensen te bepalen wordt er in dit onderzoek gekeken naar het reisgedrag van mensen. Zo worden er (in deel 3) bijvoorbeeld vragen gesteld over hoe vaak en hoe ver u reist.
Het invullen van de enquête is vrijwillig. De verkregen data zal anoniem verzameld en verwerkt worden. Daarnaast zal de verkregen data alleen gebruikt worden voor dit onderzoek en zal de data niet gedeeld worden met andere partijen.

De enquête bestaat uit 20 vragen en zal ongeveer 5 minuten duren. Ik wil u alvast bedanken voor het invullen van de enquête!

<u>Deel 1: De respondent</u>
In dit deel worden vragen gesteld over u en uw woonsituatie.

1. Wat is uw woonplaats?

……..

2. Wat is uw postcode? (optioneel)

……..

3. Wat is uw leeftijd?

……..

4. Wat is uw geslacht?

- Man
- Vrouw
- Anders

5. Wat is ongeveer de afstand (in km) van uw huis tot aan de dichtstbijzijnde snelweg?

……..

6. Wat is ongeveer de afstand (in km) vanaf uw huis tot aan het dichtstbijzijnde treinstation?

……..

7. Wat is ongeveer de afstand (in km) vanaf uw huis tot aan de dichtstbijzijnde bushalte?

……..

Deel 2: Sociaal kapitaal

In dit deel staan stellingen over activiteiten, organisaties en bewoners in uw buurt. De antwoorden gaan van 'helemaal mee oneens' naar 'helemaal mee eens'. Hierbij geldt:

1 = Helemaal mee oneens
2 = Mee oneens
3 = Neutraal
4 = Mee eens
5 = Helemaal mee eens

Omcirkel het cijfer wat van toepassing is.

8. In mijn buurt zijn mensen bereid om buren te helpen met dagelijkse activiteiten (bijv. het legen van containers, sneeuw schuiven wanneer er sneeuw is gevallen).

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

9. In mijn buurt wordt er samen gewerkt om de buurt te verbeteren (bijv. organiseren buurtfeest, het verbeteren van een speeltuin)

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

10. Ik heb het gevoel dat ik erbij hoor en dat ik deel uitmaak van mijn buurt.

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

11. De meeste mensen in mijn buurt zijn te vertrouwen.

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

12. Ik maak actief deel uit van lokale groepen of organisaties in mijn buurt (bijv. sociaal, politiek, religieus, sport of school gerelateerde organisaties).

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

Deel 3: Mobiliteit

In dit deel worden vragen gesteld over uw reisgedrag.
Let op: Hierbij telt reizen voor vakanties niet mee.

13. Hoe vaak reist u in totaal gemiddeld per week? (voorbeeld: Als u van huis naar uw werk rijdt, is dit 1 keer reizen. Als u vervolgens van uw werk weer naar huis rijdt is dit ook weer 1 keer reizen)

……..

14. Hoe veel kilometers reist u in totaal gemiddeld per week?

……..

15. Welke vervoersmiddelen gebruikt u hierbij?

- **Te voet**
- **Fiets**
- **Bus**
- **Tram/metro**
- **Trein**
- **Taxi**
- **Auto (bestuurder)**
- **Auto (passagier)**
- **Iets anders, namelijk ……..**

16. Hoe veel verschillende redenen voor transport heeft u gemiddeld per week? (Voorbeeld: werk is 1 reden, sporten is 1 reden)

……..

Bij de volgende stellingen gaan de antwoorden, net als in deel 2, van 'helemaal mee oneens' naar 'helemaal mee eens'. Hierbij geldt:
1 = Helemaal mee oneens
2 = Mee oneens
3 = Neutraal
4 = Mee eens
5 = Helemaal mee eens
Omcirkel het cijfer wat van toepassing is.

17. Ik heb zelf het gevoel dat ik mobiel ben/ me gemakkelijk kan verplaatsen van de ene plaats naar de andere plaats.

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

18. Als ik zou kunnen, zou ik per week meer willen reizen.

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

19. Als ik (betere) beschikking had tot andere vervoersmiddelen zou ik meer reizen.

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

20. Ik denk dat lokaal sociaal kapitaal (= gezamenlijke waarden, normen, activiteiten en relaties in mijn dorp/buurt) invloed heeft op mijn mobiliteit/reisgedrag.

Helemaal mee oneens 1 2 3 4 5 Helemaal mee eens

<u>Deel 4: Toestemming</u>

21. Hierbij geef ik toestemming dat mijn antwoorden op de vragen worden gebruikt voor dit onderzoek.

- Ja
- Nee

Bedankt voor het invullen van de enquête!

2. Statistics/ SPSS outcomes

2.1 Multiple regression analyses

2.1.1 Local social capital and occurrence of movements

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.[b]	.	Enter

a. Dependent Variable: Occ_mov.

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,258[a]	,066	-,061	8,7619

a. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	240,092	6	40,015	,521	,789[b]
	Residual	3377,948	44	76,772		
	Total	3618,039	50			

a. Dependent Variable: Occ_mov.

b. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients			Correlations		
Model	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
(Constant)	12,031	7,094		1,696	,097			
Age	-,065	,080	-,127	-,821	,416	-,076	-,123	-,120
Gender	-,966	2,528	-,057	-,382	,704	-,028	-,058	-,056
Highway	-,170	,754	-,052	-,226	,823	-,089	-,034	-,033
Trainst.	-,191	,594	-,075	-,321	,750	-,070	-,048	-,047
Busst.	-,082	1,025	-,014	-,080	,937	,072	-,012	-,012
SOC_CAP4+5	1,912	1,362	,248	1,404	,167	,187	,207	,204

a. Dependent Variable: Occ_mov.

2.1.2 Local social capital and distance of movements

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.[b]	.	Enter

a. Dependent Variable: Dist_mov

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,541[a]	,292	,196	225,7863

a. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	925962,861	6	154327,144	3,027	,014[b]
	Residual	2243095,767	44	50979,449		
	Total	3169058,627	50			

a. Dependent Variable: Dist_mov

b. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	779,941	182,811		4,266	,000			
Age	-3,618	2,056	-,237	-1,760	,085	-,280	-,256	-,223
Gender	-165,152	65,149	-,331	-2,535	,015	-,217	-,357	-,322
Highway	18,973	19,433	,196	,976	,334	-,089	,146	,124
Trainst.	-35,010	15,307	-,464	-2,287	,027	-,291	-,326	-,290
Busst.	32,009	26,403	,186	1,212	,232	,205	,180	,154
SOC_CAP4+5	9,936	35,099	,044	,283	,778	-,031	,043	,036

a. Dependent Variable: Dist_mov

2.1.3 Local social capital and total number of means of transport

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.[b]	.	Enter

a. Dependent Variable: Tot_means

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,526[a]	,277	,178	1,2061

a. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24,503	6	4,084	2,807	,021[b]
	Residual	64,007	44	1,455		
	Total	88,510	50			

a. Dependent Variable: Tot_means

b. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Correlations		
	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
(Constant)	4,296	,977		4,399	,000			
Age	-,030	,011	-,375	-2,757	,00	-,428	-,384	-,353
Gender	-,241	,348	-,091	-,692	,493	,013	-,104	-,089
Highway	,194	,104	,379	1,868	,068	,059	,271	,239
Trainst.	-,174	,082	-,435	-2,124	,039	-,213	-,305	-,272
Busst.	,030	,141	,033	,211	,834	,120	,032	,027
SOC_CAP4+5	,013	,187	,011	,070	,945	-,132	,011	,009

a. Dependent Variable: Tot_means

2.1.4 Local social capital and total number reasons of movements

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.[b]	.	Enter

a. Dependent Variable: Reas_mov

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,437[a]	,191	,080	1,2878

a. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17,184	6	2,864	1,727	,137[b]
	Residual	72,973	44	1,658		
	Total	90,157	50			

a. Dependent Variable: Reas_mov

b. Predictors: (Constant), SOC_CAP4+5, Gender, Highway, Age, Busst., Trainst.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	4,838	1,043		4,640	,000			
Age	-,013	,012	-,163	-1,132	,264	-,171	-,168	-,154
Gender	-,203	,372	-,076	-,545	,588	-,006	-,082	-,074
Highway	-,059	,111	-,114	-,530	,599	-,329	-,080	-,072
Trainst.	-,125	,087	-,311	-1,434	,159	-,368	-,211	-,194
Busst.	-,016	,151	-,018	-,109	,914	,012	-,016	-,015
SOC_CAP4+5	,231	,200	,190	1,155	,254	,056	,172	,157

a. Dependent Variable: Reas_mov

2.2 Pearson correlation analyses

2.2.1 Local social capital and the occurrence of movements

Correlations

		SOC_CAP4+5	Occ_mov.
SOC_CAP4+5	Pearson Correlation	1	,187
	Sig. (2-tailed)		,190
	N	51	51
Occ_mov.	Pearson Correlation	,187	1
	Sig. (2-tailed)	,190	
	N	51	51

2.2.2 Local social capital and the distance of movements

Correlations

		SOC_CAP4+5	Dist_mov
SOC_CAP4+5	Pearson Correlation	1	-,031
	Sig. (2-tailed)		,829
	N	51	51
Dist_mov	Pearson Correlation	-,031	1
	Sig. (2-tailed)	,829	
	N	51	51

2.2.3 Local social capital and the total number of means of transport

Correlations

		SOC_CAP4+5	Tot_means
SOC_CAP4+5	Pearson Correlation	1	-,132
	Sig. (2-tailed)		,355
	N	51	51
Tot_means	Pearson Correlation	-,132	1
	Sig. (2-tailed)	,355	
	N	51	51

2.2.4 Local social capital and the total number of reasons for movement

Correlations

		SOC_CAP4+5	Reas_mov
SOC_CAP4+5	Pearson Correlation	1	,056
	Sig. (2-tailed)		,694
	N	51	51
Reas_mov	Pearson Correlation	,056	1
	Sig. (2-tailed)	,694	
	N	51	51

2.3 Spearman's rho correlation analyses

2.3.1 Local social capital and perceived mobility

Correlations

			Group_Soc_Cap	Feel_mob
Spearman's rho	Group_Soc_Cap	Correlation Coefficient	1,000	,062
		Sig. (2-tailed)	.	,666
		N	51	51
	Feel_mob	Correlation Coefficient	,062	1,000
		Sig. (2-tailed)	,666	.
		N	51	51

3. Scheme variables for the analyses

Local social capital (=independent variable)

Variable	Extra information	Measurement scale for multiple regression
• Reciprocity • Civic trust • Group participation	Five questions on Likert scale (ordinal) → Count times answered '4' or '5' → New value on ratio scale	Ratio

Mobility (=dependent variable)

Variable	Extra information	Measurement scale for multiple regression
Occurrence movements (how many)		Ratio
Total distance of movements (km)		Ratio
How many means of transport		Ratio
How many reasons for movement		Ratio
Perceived mobility	*The aspect is asked by a question on Likert scale (1-5)*	*No multiple regression done. Spearman rho correlation is done*

Respondent characteristics (=control variables)

Variable	Extra information	Measurement scale for multiple regression
Age		Ratio
Gender		Nominal
Distance to highway (km)		Ratio
Distance to train station (km)		Ratio
Distance to bus stop (km)		Ratio