

1 Introduction

Everyone wants to grow old, but no one wants to be old.¹ Although this is perhaps an obvious statement, this truism is also somewhat of a paradox, as we cannot grow old and live long lives without experiencing old age. When one lives a long life, it is often assumed that this life has been fulfilling. The term old age, however, is associated with negative side-effects we are unable to avoid, despite what the anti-aging cream adverts may want us to believe. Loss of physical and mental abilities, financial restraints and – as a consequence – loss of our autonomy and virtually boundless activity spaces, energy and enthusiasm for life are additional and undesirable secondary effects closely linked with ‘old age’. Interestingly, Cicero mentioned this paradox more than two millennia ago (Cicero 1999). Compared to Cicero’s time, the difference today is that our life expectancy has increased profoundly and is still on the rise (Statistische Ämter des Bundes und der Länder 2011, StBA 2010c). Through a variety of drugs and specialist treatments medical advancements allow us to live long lives despite weak organs, creaking and artificial joints, and the inherent results of a lifetime of bad diets and living such as diabetes, high cholesterol and hypertension. However, some signs of old age such as fragility, age spots, and other afflictions cannot be disguised by advanced medicine. We know that signs of ageing are inevitable and one may therefore prefer to ignore them. Public interest in such matters, however, has risen substantially as demographic change is predicted to end in tragedy in many so-called industrialised countries. In today’s public debate, attention is mainly given to the negative economic consequences of ageing, a discourse that occasionally raises social or ethical concerns. Demographic ageing gives rise to social and economic problems: a growing number of pensioners are entitled to benefits, which burdens social security systems. In addition, an ageing population will alter demand patterns. The demand for medical care, for instance, is expected to rise and so will health care expenditures. Yet, as populations shrink an efficient provision of medical services, as well as of other services required by the elderly, becomes problematic, especially if the

¹ “Every man desires to live long; but no man would be old” are the words from Jonathan Swift, an Irish writer living in the 17th and 18th century (Swift 2010).

consumers of such services are increasingly immobile (cp. below). In structurally weak rural areas of Germany, the natural decline in population is intensified by outward-migration, mainly of the young and active generation. Consequently, these areas experience accelerated shrinkage and significant ageing of the population (BBR 2004, 2005b, 2010, OECD 2010, Seitz 2002, Simon 2010, StBA 2009a).

Even though living conditions in Germany are still seen to be of a high standard, supply structures have to be adapted in line with the ongoing demographic change. In August 2011, the 'Deutsche Bauern Korrespondenz' (members' magazine of the German Farmers' Association) headlined, "Bleibeperspektive im ländlichen Raum" ('prospects of remaining in the rural space'), and dedicated its topic of the month to the provision of services of general interest in rural areas. Issues at stake are the provision of health care, childcare and schooling, and public transport as well as local supplies and high-speed internet access. Besides, the importance of a lively local community is highlighted (Pascher 2011, Scheibelhuber 2011). In April 2011, the Federal Ministry of Transport, Building and Urban Development started the 'Aktionsprogramm regionale Daseinsvorsorge' calling on rural regions to develop strategies on how to guarantee the provision of general services in demand. In autumn 2011, within the ministry's 'Initiative Ländliche Infrastruktur' ('Initiative for rural infrastructure') having started in 2010, a competition focusing on 'mobility' will be announced (BMVBS 2011a, 2011b).

Mobility is indispensable for social and economic life and thus a precondition for actively partaking in society. Especially in rural areas, where people and their activities are widely scattered, transport mobility is a key element to access goods and services such as work, supplies, education, and recreational activities. Everyday travel in such regions is often plagued by large distances. Since public transport provision is generally poorer in rural areas than in those more densely populated, people tend to rely more on private means of transport. In some places this is virtually the only way to reach services and facilities of everyday importance. Mobility is thus a central aspect of accessibility, "[...] the people's ability to reach the things which are important to them." (Moseley 1979a, 1), and inadequate or unaffordable mobility opportunities can be a main catalyst behind "poverty of access" (Farrington *et al.* 2004a, b) and social exclusion (Cass *et al.* 2005). A particular challenge inherent to rural areas is therefore transport-related accessibility.

With advancing age, maintaining mobility often becomes jeopardised, due to the increasing risk of physical and sensory impairments. It can be assumed that elderly people face specific obstacles in pursuing basic activities, as reduced mobility options can constrain their access to services and facilities. This is especially the case in sparsely populated areas where a limited choice of local amenities and large distances to additional special services and facilities render transport mobility more important or even indispensable (Brög *et al.* 2000, KBA 2010, Mollenkopf & Flaschenträger 2001). Mobility, key to an independent way of life, is also an important factor in growing old with dignity (Heikkinen *et al.* 1997, Mollenkopf *et al.* 2005, Ruuskanen & Ruoppila 1995).

The individual view of such issues that accompany old age, however, is largely neglected, not only in politics but also in research. Individual perception and experience of one's living conditions, however, determine life satisfaction and well-being and are thus important components of quality of life. Quality of life, again, can be assumed to be an important determinant when choosing one's location of residence. If society strives to maintain the rural areas as a 'living space' and to prevent rural depopulation, good living conditions have to be ensured and these must be adjusted to the needs of the rural population. This also implies that in peripheral, low-density regions basic public services have to be provided at an adequate level. As the rural population ages, it is important that services of general interest are designed and made accessible according to the requirements of elderly persons. Identifying ways to meet the needs of rural elderly people is therefore crucial, not only because their number and share in the population are increasing, but also because their limited mobility options could restrict their access to important activities. One issue at stake is to maintain rural health care provision at an adequate level. This is particularly important for elderly people, since they tend to have more *and* age-specific health issues (Beske *et al.* 2009, GBE 2010a, Noll & Weick 2008).

Elderly people's transport mobility and accessibility in rural Germany is one of the central points of this work. Aiming to understand the lifestyle of an elderly person, their evaluation of the conditions around them and the context of their behaviour and needs, a qualitative research design was chosen. Through in-depth interviews elderly people's access to basic activities and related aspects are explored: which services and facilities do they need and want to access? How do they access these? How do they perceive their accessibility? Which problems do they encounter in daily life? Simultaneously, the study explores elderly people's views on ageing in the countryside. How do the old and those growing old experience old age and ageing in the rural space? How do they perceive the mobility restrictions that can occur through the process of ageing? What is important for them for a fulfilled (rural) life? The study area chosen for this research is the district of Holzminden, a district in northern Germany that is already massively affected by demographic ageing and shrinking (BBR 2010, LSKN 2011a, 2011c).

In contrast to rural areas in Germany, rural Scotland has been experiencing a population growth in the last two decades. There is a positive flow of migration and a natural growth of population. However, this population turnaround has not necessarily fostered the development of infrastructure. Most of the newcomers commute to urban centres by car, and – as they incorporate their weekly shop into the commuting journey – they tend to use local services less than long-term residents. Consequently, there is a gradual decline in rural services and amenities, which has proved to increase the distances rural dwellers are required to travel in order to access what they need. Low demand reinforces not only the decline of services but has also led to

cutbacks in public transport, increasing dependency on private cars and thus reducing the accessibility of those without such luxuries (OECD 2008b, Scottish Government 2007a, 2010).

As pointed out, mobility opportunities vary between and among social groups. Women are – just as elderly people – often considered to be more likely than men to experience limited mobility opportunities. Being without a car in regions where people are very much dependent on them can lead to significant impacts on quality of life (DfT 2005a, 2007b, Dobbs 2005, Law 1999, Reid Howie Associates 2000, Uteng & Cresswell 2008). As accessibility can be strongly linked to social inclusion, social justice and equal opportunities for men and women it is key and must be addressed in order to increase the quality of life in rural areas as well as gender equality (Uteng & Cresswell 2008).

With the above in mind, this work examines rural women's mobility opportunities, their travel behaviour and the access they have to activities that are important to them. Their respective experiences are explored using in-depth interviews that were carried out in Aberdeenshire, a council area in the northeast of Scotland.

Thus, this work deals with the transport-related accessibility of elderly people living in rural Germany and of women living in rural Scotland, two social groups that assumedly face accessibility constraints. Focusing on mobility aspects of the accessibility concept, the field study investigates the importance of transport opportunities to carry out daily activities. Besides, this explores how women and elderly people perceive rural living and in particular how elderly people perceive ageing in the countryside.

Outline of the thesis

The thesis is structured as follows: first, key terms used throughout this thesis will be defined and an overview of the theoretical concepts that underpin this research will be given (chapter 2). Chapter 3 presents the methodology and the design of the empirical research carried out, and includes the instrumentation, selection of participants, data collection and data analysis procedures. Chapter 4 describes the areas in which the studies took place, Aberdeenshire and the district of Holzminden. Subsequently, in chapter 5, the findings obtained from the empirical research carried out in the district of Holzminden will be presented in more detail than in the published papers. Finally, chapter 6 will present the discussion of the studies, and the results will be compared to previous investigations and their broader implications considered.

2 Conceptual delineations and theoretical framework

The aim of this chapter is to define key terms used throughout this thesis and provide an overview of the theoretical concepts that underpin this research. The chapter begins by providing explanations and conceptual delineations of the terms ‘accessibility’ and ‘mobility’. Subsequently, a framework for spatial behaviour will follow, a concept grasping basic activities in which people are involved (cp. also background information in the appendix).

2.1 Accessibility and mobility

As is the case for rural areas, there is no exact definition of the multifaceted concept of accessibility. Gould (1969) declares: “Accessibility [...] is a slippery notion, [...] one of those common terms that everyone uses until faced with the problem of defining and measuring it!” (Gould 1969, 64).

Moseley’s (1979a) definition of accessibility as “[...] the people’s ability to reach the things which are important to them.” (Moseley 1979a, 1) is perhaps the most concise and comprehensive.

According to Moseley (1979a) the basic components of accessibility are people, activities and the transport and communication links between them (cp. Figure 1).

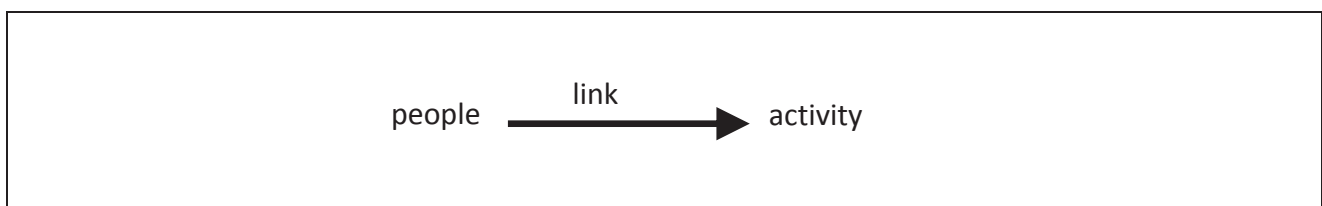


Figure 1: Basic components of accessibility
(Own design, adapted from Moseley 1979a)

Levels of accessibility, i.e. the extent to which something is “get-at-able” (Moseley 1979a, 56), can be defined and assessed for individuals² as well as for places in relation to people or other locations³ (Halden *et al.* 2000, Moseley 1979a).

To have an informative value, accessibility has to be assessed in reference to a person or to a place and is thus a relative term. In many cases it can be more useful to take account of a person-based perspective (Miller 2007). If place-based accessibility is measured, it has to be considered that a place can be reached by alternative means of transport, which might not be available for all: a location may be accessible by car but inaccessible by train and thus inaccessible for those without cars.

Moreover, (transport) mobility is a central aspect of accessibility as it is essential to reveal the links between two geographical points; nevertheless, as demonstrated below, a lack of access can be due to factors other than mobility deprivation.

Mobility is a multi-layered concept and can refer to geographical and social spaces. Social mobility is not discussed within the study, but – in line with the ‘new mobility paradigm’ (Hannam *et al.* 2006, Sheller & Urry 2006) – it is understood that spatial movement takes place in a socio-cultural, economic and political context. Spatial mobility has two main aspects: (1) migration and (2) short-term spatial movement, i.e. going somewhere for a specific purpose but intending to return home afterwards.⁴ The focus of both studies presented here lies on the second aspect; however, the question of the elderly people’s possible intention to change domicile was included in the Holzminden study. Not only ‘revealed’ mobility was explored, thus not only ‘effected’ movements but also the potential for undertaking these movements was considered, i.e. ‘potential’ mobility, so called ‘motility’. Revealed mobility is an element of access.

Cass *et al.* (2005) identify four dimensions of transport-related accessibility: (1) financial (resources to pay for transport), (2) physical (capacity to drive, cycle or walk), (3) organisational (arrangements for availability of transport with others or the timing of public transport), and (4) temporal (time in general and when transport is available). The authors admit that these dimensions cannot be separated in practice.

Transport mobility serves to overcome a distance; the ‘distances’ between a person and the desired activity can be expressed in terms of physical distances, travel time or cost, by perceived distance or by convenience and effort.

The physical health aspect could also be incorporated into the concept, as physical condition and moving capacity determine one’s mobility options and thus influence accessibility. As to mental health, one could argue that a respective disorder might have spatial as well as social implications on accessibility.

² How is their ability to get to an activity?

³ How reachable are they for whom and from where, when, by which means of transportation, etc.?

⁴ Focus of more recent approaches are the forms in-between: transmigration, remigration and circulatory migration (Fassmann 2008, Haug & Rühl 2008).

This brings one to the socio-economic aspects of accessibility. Although in most cases spatial interaction is crucial, the concept also incorporates social and economic dimensions: whether places are accessible or inaccessible depends not only on the respective location but also on the individuals' socio-demographic and financial position (e.g. age, gender, ethnicity, education, income, wealth). Depending on the way in which they influence a situation, these factors can permit or limit access. For instance, poverty may impede people to pay the bus fare or buy an entrance ticket and lowers one's ability to reach certain locations or to take part in certain activities (Cass *et al.* 2005, Farrington 2007, Farrington & Farrington 2005, Knowles *et al.* 2008, Moseley 1979a). Here it becomes clear that unequal accessibility opportunities are the norm and that accessibility is a prerequisite for social inclusion, social justices as well as gender equality. The accessibility concept can be linked to the concept of social exclusion. In rural areas where people and their activities are widely scattered physical accessibility is particularly challenging if transport options are inadequate. This issue will be discussed in the background information chapter in the appendix.

This work focuses on the mobility aspects of accessibility; socio-economic factors affecting accessibility are not explicitly examined in the studies at hand. Despite this, such factors are included indirectly, due to spatial accessibility deprivation frequently correlating with other, often more evident elements of deprivation on an economic and social level. The study in Holzminden also covered health-related mobility restrictions that might lower the accessibility of elderly people. In Aberdeenshire, a time aspect was included to account for inaccessibility that may arise due to women's time constraints.

The consideration of time constraints adds another dimension to the conceptual framework of accessibility: an individual has only a certain time budget available to conduct activities; time constraints may prevent someone from reaching a destination where a particular activity can be performed. Being occupied with other activities (for example being at work or having household and childcare responsibilities), may also mean that individuals are not able to travel and take part in activities. Likewise, the timing of public transport, the availability of private transport, or the opening hours of facilities have to coincide with the times people are free to travel; otherwise even geographically close activities are not 'accessible'. Individuals are thus captured in a 'time-space prism' (Carlstein 1978, Hägerstrand, according to Moseley 1979a) that also plays a role in journey decision-making and can be used to analyse travel behaviour (cp. appendix).

In summary, spatial, temporal and socio-economic aspects define an individuals' capability to reach and take part in activities, i.e. their accessibility. With this in mind, accessibility will within this study be seen as an individual's ability to reach a location (for example the work place, commerce, health and educational services, recreational facilities) and carry out certain activities within a given environment.

2.2 'Basic functions of existence' – activities in space

Which are the important services and facilities every member of society should have access to in order to be able to share the style of life available to the majority? To propose these key aspects of life, a conceptual framework is needed that comprehensively grasps all spatially relevant basic activities every human takes part in. The theoretical framework of the Munich School of social geography (Ruppert, Schaffer Maier, Paesler, *et al.*) attempts to systematise (basic) human activities, which they call 'Daseinsgrundfunktionen' or 'Grunddaseinsfunktionen' and the resulting requirements for space. Aware that this translation may not accurately convey the meaning of the German term, it can be translated into English as 'basic functions of existence'.⁵ In this context 'function' stands for 'activity'. The (original) basic functions of existence are (1) housing, (2) work, (3) supplies⁶, (4) education, and (5) recreation; living in a community ('Gemeinschaft') and reproduction have been added. These functions are connected through 'transport' and 'communication', which are necessary to fulfil the functions (cp. Figure 2): in most cases certain locations have to be reached. Transport mobility is a means to overcome the distance between the single locations where the basic functions of existence can be satisfied.

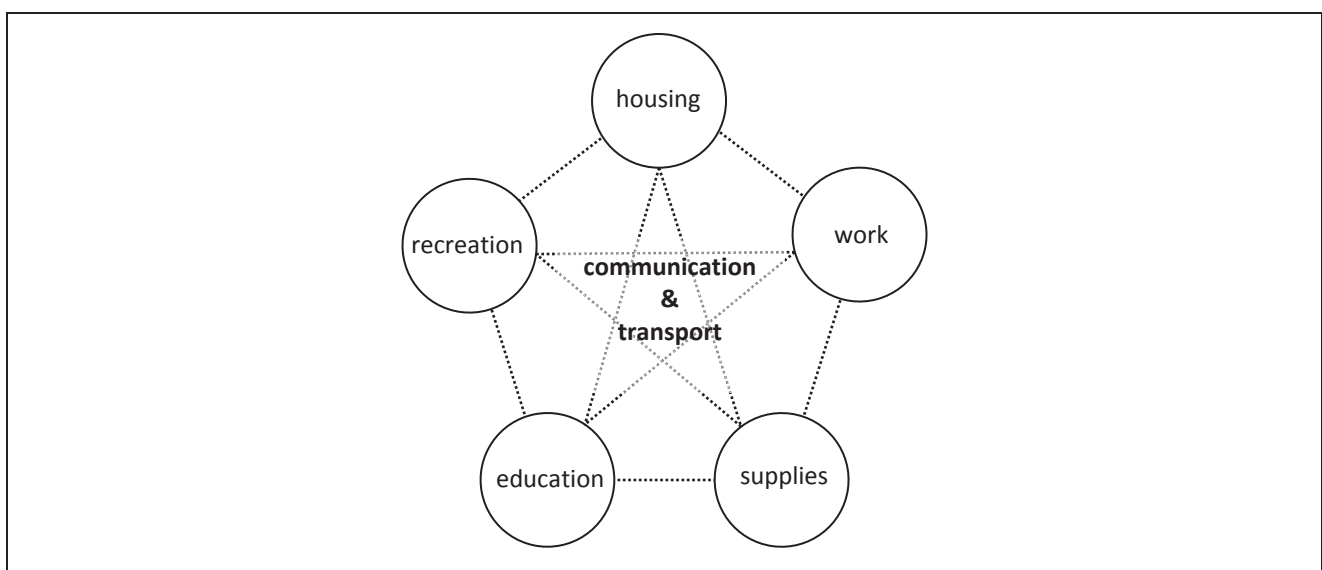


Figure 2: Schematic of the 'basic functions of existence'
(Own design, according to Werlen 2004)

These functions are intertwined, interdependent and each of them irreplaceable. Their fulfilment is irrespective of the social strata or current life situation; functional emphasis, location of the activities and intensity of the connections depend on the individual and shift over the course of life (cp. Figure 3) (Ruppert & Schaffer 1969, 1973, Werlen 1987, 2004).

⁵ Not to be confused with the Maslow's hierarchy of needs or the basic needs approach.

⁶ i.e. providing oneself with necessary goods and services, including health services

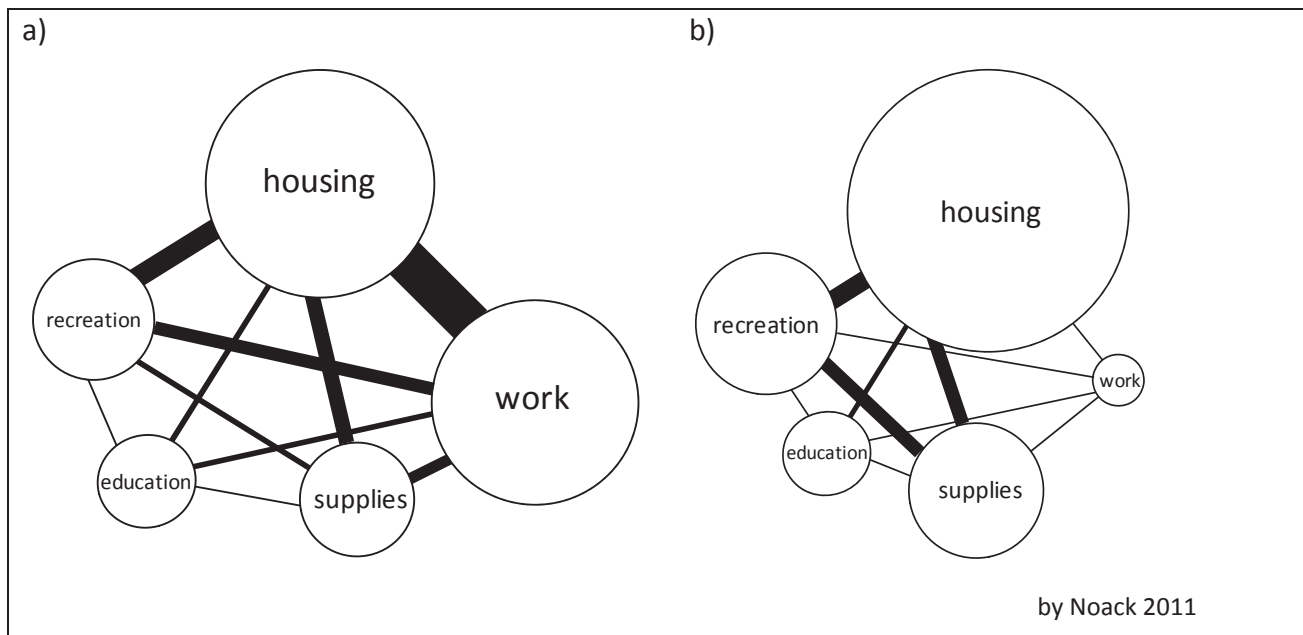


Figure 3: Illustration of the structure of the 'basic functions of existence' changing over the course of life (Own design)

a) This figure illustrates the activities carried out by a fictitious young jobholder attending off-the-job training courses. b) This figure illustrates the activities of a fictitious retired person working voluntarily in a local organisation, taking evening classes and pursuing most leisure activities locally.

The size of the circles indicates the time spent with each activity, the width of the lines linking the activities symbolise the intensity (frequency) of the connection and their length represent the average distance. It can be seen that the emphasis and the intensity of connections between the basic functions shift along with phases of life. The localisation of activities can overlap, e.g. recreational activities can take place at home; this is not shown in the schematic because distances are averaged, if functions partially take place in the same locations they only move together.

Even though the conception is exemplary in nature, its contents are close to reality: the former 'Social Exclusion Unit' of the UK government, for instance, identified access to work, learning, health care and food shops as priorities, but also highlighted the importance to access social, cultural and leisure activities (DfT 2007a) – this list covers exactly the basic functions. These basic functions of existence are also an essential component in German spatial planning (cp. appendix). With the development of individual traffic the spatial separation of basic activities became feasible and was once aimed at; this led to dormitory towns as well as green-field industry complexes and shopping centres. Nowadays, one strives towards mixing the functions again and spatial planning measures have to provide for sufficient space for single activities (Heineberg 2007).

Thus, the basic functions demand certain requirements for the living space ('Lebensraum') to be met and simultaneously shape the space. According to Ruppert and Schaffer (1969) all space-affecting activities can be assigned to one of these functions.⁷ On the basis of such functions,

⁷ On closer inspection the attentive reader notices that some activities can be ascribed to more than one function, e.g. shopping can be an activity to fulfil the function 'supply' but also 'recreation', computer lessons can be part of 'recreation' or 'education', writing a doctoral thesis might be deemed as 'work', 'education' or 'recreation'. The

which can be timed and measured spatially, it is possible to comprehend spatial organisation and space-forming processes. Thanks to its exemplary nature the concept allows a systematic and relatively objective description and analysis of living spaces.⁸ In this instance, the model will not be applied in its original form; not an allegedly objective spatial analysis is in the spotlight but the subjective description and evaluation by the individual of his or her living and action space in relation to the single basic functions of existence, particularly with regard to their accessibility. Besides, mobility patterns can at least be understood partly on the basis of this framework. Thus, the model has been adopted and transformed into a categorisation of activities that people pursue in space and for the exertion of which movement and transport mobility is essential. The location of the pursued or desired activities, the mobility to reach these activities, the perception of their accessibilities and the resulting setting of priorities were explored in the course of the interviews.

2.3 Summary and relevance for both studies

Starting with the explanation and conceptual delineation of terms used in this study, this chapter has provided an overview of the theoretical concepts underpinning this research. After presenting the concept of accessibility and its many facets, transport-mobility was highlighted as a central aspect of accessibility, especially in rural areas. Perception and evaluation of the environment influence journey decision-making and thus spatial behaviour. In the same way, the subjective assessment of the accessibility depends on the set of alternatives that are evaluated by the individual. The perceived convenience of transport-related access depends in part on one's mobility options, on time restraints and constitution. The theoretical framework of 'basic functions of existence' can portray the numerous activity locations that have to be reached to take part in social and economic life. The emphasis of these activities shifts with life stages. Nonetheless, having access to and pursuing these activities according to one's needs is a precondition for social inclusion and an important component of quality of life.

Applying the theories and definitions introduced in this chapter to the research at hand, the following assumption can be made: when the interviewees in the studies talk about their activity patterns and the accessibility of a certain location, they will automatically include only the locations where required or desired activities occur. These activities can be regarded as important for the interviewees for their ('rural') life. Gender and age influence mobility options and – as the emphasis on the basic functions of existence shifts with stages in life – mobility needs and thus activity-travel decisions. In evaluating their accessibility, the interviewees will only consider the transport modes available to them and will mainly measure the ease of access in time, effort and

localisation of activities might overlap: 'recreation' and 'work' can take place at home, thus at the same location as the function 'housing'.

⁸ Like most conceptions, this model is controversial and meets its limits (cp. for example Werlen 1987, Werlen 2004). Some of the limitations noticed by the author were also addressed in the preceding footnote.

costs, i.e. in the perceived 'distance'. Elderly people might give special consideration to their health status, women to their time budgets, for instance. They will also probably think about the social closeness of places, which is difficult to grasp in numerical units. The aim of this research is to assess how women and elderly respectively perceive their access to the locations, services, and facilities important to them. It is assumed that reasonable accessibility of these activities is important for interviewees' life-satisfaction and well-being, and thus their quality of life. The following chapter is devoted to the methodology of the empirical research.

3 Methodology and research design

This chapter addresses the research methodology employed to conduct the studies, i.e. to collect and analyse relevant data, in order to deal with the research questions of this thesis. The chapter is divided into two parts. The first part deals with characteristic features of qualitative research in general; the second part is dedicated to the preparation and implementation of the actual research undertaken. A description of the specific steps that were taken to tackle the research questions is provided, comprising the following elements: Instrumentation, selection of participants, data collection and data analysis.

3.1 Paradigms of qualitative research

For both studies a qualitative research design was chosen in order to comprehend the individuals' perceptions and experience of the subject, their evaluation of the conditions around them and the context of their behaviour and actions. Qualitative research helps to understand social reality by analysing the general set-up in which people perceive their environment, thus their reality, and by which they form an opinion about their situation and act accordingly. Trying to understand a topic, it is explored for instance why and how decisions are made, and not only who took which decision, when and where. A researcher employing qualitative methods tries to find patterns of meaning within the gathered data, i.e. within people's words or observed actions; he or she then examines these patterns and tries to contextualise the findings. Qualitative studies and the collected data are in fact interpretations of how the people that are studied, the informants themselves, present their own reality and practice. Due to their openness for the unknown, qualitative methods are suitable for exploratory studies. Qualitative research takes into account that individuals (in this case the interviewed women and elderly people) virtually always have differing points of view on a specific problem (here transport mobility, accessibility and related issues); these differences are meant to be grasped, pointed out and explained (Mayring 2002, Ritchie & Lewis 2003).

Qualitative research does not only differ from quantitative research in respect to the material that is preferentially used and how it is collected. Rather, the approaches differ much more fundamentally in terms of the research logic they are based on. At least ideal-typically, we can differentiate between quantitative research which is guided by specific hypotheses and qualitative research which generates hypotheses in an inductive process. In qualitative research, the focus of attention is to gain new knowledge and theoretical understanding by dealing with empirical material and previous knowledge. The aim is to generate a theoretical concept that refers to a specific element of social reality. From qualitative data we cannot infer the prevalence or statistical distribution of a phenomenon but we can gain deep, differentiated insights into its nature by looking closely and by analysing in detail. Besides, in exploratory studies there is the possibility of discovering dimensions and aspects of a topic that have not been observed before (Przyborski & Wohlrab-Sahr 2008). Individualisation and diversification of lifestyles especially in wealthy industrial nations have led to a wide variety of behaviours, viewpoints, needs, groups and so on that are difficult to grasp with quantitative data. Qualitative research aims at understanding this complexity of society and at gaining a deep insight into the world of phenomena and individuals (Reuber & Pfaffenbach 2005, Ritchie & Lewis 2003).

The nature of this research (partly exploratory) and the research purpose required qualitative methods. Here, the importance lies on women's and elderly people's assessment of their situation in regard to their transport mobility, their accessibility, and other aspects of quality of life. This personal assessment might not correspond with the objective measure of their condition. Likewise, contrasting evaluations might be produced of the same (objective) environment. However, precisely people's perception of their living conditions influences their (spatial) behaviour as well as their life satisfaction and might be more revealing than the objective measure of their situation. In view of poor transport opportunities in rural areas and rural women's objectively poor accessibility levels, one can find out, for example, how women themselves perceive their accessibility, which services and facilities are important to them, which are their specific needs and wants, which are the obstacles they face, and how do they cope with potential transport related accessibility problems. In the light of demographic change combined with out-migration of the young, the perception of the elderly, as those who stay and who are more likely to face limited mobility, can give interesting insight into rural living conditions and can help to understand the causes and the consequences of this development. Besides, seeing that health has an important psychological component (Böhm *et al.* 2009, Mielck 2003), this focus on individual perception can be considered to be especially important.