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Social aspects of long-distance travel - a study of two survey designs

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Abstract

Major parts of transportation research focus on everyday travel, including qualitative, quantitative and mixed-methods approaches. However, to find strategies to reduce transport-related emissions on a global scale, studies on long-distance travel require greater consideration. This paper presents and compares two independent mixed-methods research approaches exploring social aspects of long-distance travel. While one study is qualitative dominant and focuses on relational aspects of travel decisions, the other is quantitative dominant and originates from the individuals' needs. Both studies highlight motivational factors as important stimuli for long-distance travel patterns and that part of long-distance travel is due to social commitment.

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1. Introduction

Despite all efforts to reduce the negative impacts of everyday travel, the overall CO₂ balance of the transport sector is significantly worsened by long-distance events. To identify entry points for governance towards a more sustainable transport system, a more in-depth understanding of the determinants of long-distance travel and its changeability is required. Long-distance trips play a decisive role for mitigating pollution, especially if air transport is considered. The rising importance of long-distance travel becomes clear when looking at statistical data and studies in Germany: 45 % of the total mileage travelled is caused by long-distance trips with a minimum distance of 100 km, which includes

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holiday travel, business travel and long-distance commuting (Frick and Grimm, 2014). An evaluation of the air travel statistics shows that there has been a particularly strong growth in recent years (before the Covid-19 pandemic). Whereas in 2014 there were 207.9 million passengers departing from German airports, in 2017 there were already 234.7 million (Flughafenverband ADV, 2018). This is of importance as air travel has a high environmental impact. The growing demand for long-distance travel is also reflected in other statistics. The number of business trips has risen steadily in recent years and reached 189.6 million in 2018 (The German Business Travel Association, 2019). The demand for holiday travel is also at a high level, with Germans undertaking around 70.8 million holiday trips and 87.6 million short holiday trips in 2019 (Forschungsgemeinschaft Urlaub und Reisen e.V., 2020). The above-mentioned statistics underline that the demand for long-distance travel is high and relevant. Often, however, solely everyday travel is analyzed, which is not comprehensive, especially in terms of emissions. One reason for this is the difficulty to survey long-distance travel. The occurrence of long-distance events is rather erratic, varies from person to person and depends largely on the trip purpose. Further, long-distance events are mostly surveyed retrospectively and therefore tend to be biased. For a better understanding, studies on travel behavior outside of everyday life of individuals as well as different approaches to survey long-distance travel are therefore necessary.

1.1. Analyzing long-distance travel behavior

Understanding long-distance travel requires an investigation of the influencing factors. Three main dimensions are commonly highlighted in literature: Sociodemographic characteristics, psychological aspects, and spatial factors. Income, sex, level of education and occupation are considered important influencing factors on long-distance travel in several studies (Böhler et al., 2006; Limtanakool et al., 2006; Reichert and Holz-Rau, 2015). Regarding the influence of spatial structure, studies have shown that people living in urban areas have a higher demand for long-distance travel than people not living in urban areas (Holden and Norland, 2005; LaMondia et al., 2014). However, Czepkiewicz et al. (2018) outline in a comprehensive literature review that residents of dense urban areas tend to travel longer distances for leisure activities and that age, income and education are often identified as influencing factors for lively long-distance travel patterns. However, the authors underline that correlations do not necessarily imply cause-effect relations and that it does not seem likely that changes in urban densities would lead to a decrease of long-distance travel. At this point, psychology-oriented research becomes of interest for explaining travel behavior of individuals. There is evidence that attitudes and motives are closely related to realized behavior. The relationship between attitudes and behavior is described by diverse models, whereby Ajzen's theory of planned behavior (Ajzen, 1991) is often applied. Ory and Moktharian (2005) and Magdolen et al. (2022) are examples of studies indicating that attitudes are relevant for long-distance travel and have influence on the number and distance of long-distance activities.

Czepkiewicz et al. (2018) additionally identified a growing body of literature that takes into account the social embedding of travel choices, such as those that propose the dispersion of social networks as a predictor of travel activities. Furthermore, the literature review reveals that certain aspects of socio-economic developments, such as the growing prevalence of urban and cosmopolitan lifestyles (e.g. preference for flights and for urban leisure activities), or certain consumption practices (e.g. making international holiday trips for obtaining unique experiences), are discussed as drivers for long-distance travel. In a follow-up study, Czepkiewicz et al. (2020) confirm these explanations and outline that future research on long-distance travel should focus more on social, cultural and psychological effects, including the geographical dispersion of social networks, as well as lifestyle aspects.

Social network analysis has been increasingly carried out in travel behavior research in recent years (a review of recent publications and modeling approaches is given by Kim et al. (2018)). The basic idea behind these approaches is that transport choices are not made in isolation, but travelers are rather embedded in webs of social relations and interactions. Social network analysis aims to explore these webs and to emphasize how relationships impact activity planning and participation. Most of the existing approaches are used to provide insight into social activity patterns or the propensity to perform social activities, e.g. by measuring the extent to which interaction frequencies between network partners are influenced by characteristics of social relations or the geographic distribution of social relationships. Results indicate that emotionally close network partners are associated with higher contact frequencies (Carrasco, 2011; Carrasco and Miller, 2006; Kowald et al., 2013; Parady et al., 2021). Typically, egocentric-network

approaches that concentrate on specific actors and their relations are applied. Often, a name generator is used, a tool that utilizes a series of questions designed to elicit names of network partners, such as “Who do you usually perform social activities with?” (Carrasco et al., 2008). The focus of analysis is usually put on individual persons as relevant relationships and leisure travel, while other purposes or different kinds of relationships remain largely unexplained (e.g. relationships to clubs or business relations). Qualitative social network analysis in the realm of travel behavior research are rather rare, with the exception of the studies of Kesselring (2005), Larsen et al. (2006) or Ohnmacht (2015).

1.2. Scope of the work

Based on literature and existing studies, we argue that for explaining the increases in the scale of long-distance travel, it is important to study the different reasons and circumstances under which people decide to travel. The reasons for recurring events play an important role in this context. Motivations to travel are assumed to stimulate people to take part in long-distance travel, so these motivations need to be examined more closely. Questions in this context are: To what extent is long-distance travel typical? Are long-distance journeys made because such journeys are subjectively meaningful or are they rather perceived as a chore?

However, there is no study in Germany that provides comprehensive data for investigating the above-mentioned questions. For this reason, this paper analyses two independent surveys that provide some insights into the subject from two different angles, even though they were not explicitly designed as long-distance studies. The purpose of this paper is thus to consider the two mixed-methods research approaches and to outline how they address different social aspects of long-distance travel. The first study (study A) aims at highlighting differences between typical behavior conducted in everyday life and travel that occurs outside someone’s usual environment. The study design is quantitative dominant and among others analyses the frequency and structure of long-distance events. The study focuses on the individuals and their recurrent long-distance travel (section 2.1). The second study (study B) provides a relational approach to (long-distance) travel research by focusing on relationships towards people, things and places and their characteristics. This study is qualitative dominant and aims at assessing the likeliness of persisting relationships. The research design is based primarily on a social network analysis (section 2.2).

Both studies follow the definition of the United Nations World Tourism Organization to distinguish long-distance and tourism-related trips from everyday travel behavior (EUROSTAT, 2013; World Tourism Organization, 2007). Here, activities that take place outside a person’s usual environment are specified as tourism. We use this definition for our analysis and to capture the multilocality and social context of people and their corresponding travel activities. We consider both one-day trips and trips with overnight stays.

In the following, the two studies are presented and evaluated with regard to the participants’ reported long-distance travel and their distinct motivations. The survey designs are explained in detail in order to draw conclusions about the methodology. This is followed by a discussion with regard to both the results and the approaches. Finally, a conclusion and an outlook for further research questions are given.

2. Survey designs

2.1. Study A: Using a typical behavior approach

The first study focuses on psychological characteristics of individuals and their mobility patterns in everyday life and long-distance travel. The emphasis is on capturing typical travel behavior of individuals in a longitudinal perspective based on a quantitative survey design. In transportation research, a common data source for capturing mode and destination choice, frequencies and transport purposes are travel diaries, which have to be filled out by respondents over a day or up to one week. However, travel diaries do not allow for capturing long-distance travel events systematically due to the randomness of the observation period. The short period of a week makes it difficult to draw reliable assumptions on the stability of behavior. This is especially the case for regular occurring long-distance trips, such as regular visits of parents. However, an extension of the survey period is extremely difficult for cost reasons and the enormous respondent burden. As an efficient alternative, a travel skeleton can be used, which provides

the option to survey everyday travel behavior of people in a typical week. Instead of reporting every single trip during a random week in a travel diary, respondents report their relevant activities only, including mode choice, distance and frequency in a typical week. Due to the reduced survey effort, long-distance events such as one-day trips and trips with overnight stays can also be surveyed retrospectively. This enables us to record more or less stable everyday behaviors as well as more infrequent long-distance travel events. The concept was originally designed and tested for a study in Hamburg and Berlin (Germany) by von Behren et al. (2018) and has been successfully applied in other studies (Magdolen et al., 2019; von Behren et al., 2020).

Study A consists of three parts, where two are quantitative dominant and one is qualitative (see Fig. 1). The first part contains a travel skeleton questionnaire about typical behavior. This is followed by a travel diary over one week (similar to the one used in study B). The last part of the study is an in-depth interview study. The semi-structured interviews serve as a qualitative review to understand the differences between the travel skeleton and travel diary. However, even if it is not the main focus of study A, the qualitative part provides useful insights on the reasons and the character of long-distance travel events.

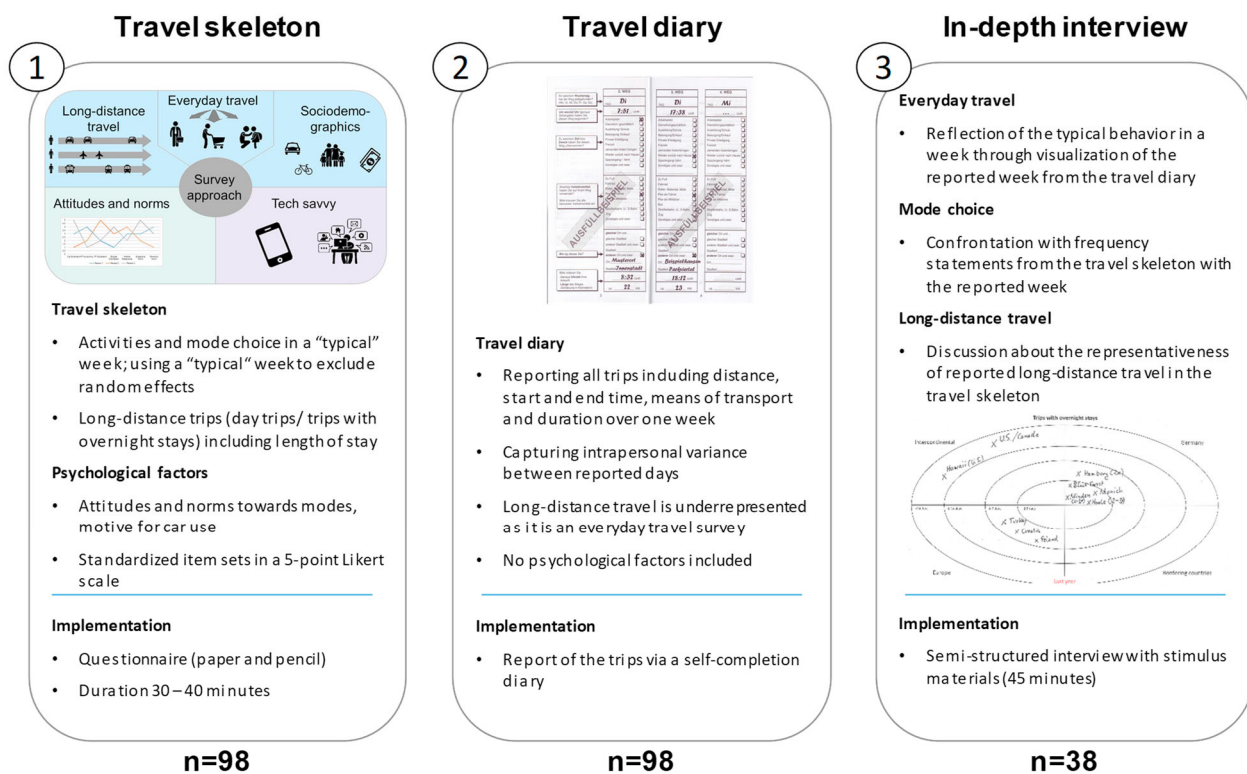


Fig. 1. Design of study A

The survey was conducted in Karlsruhe, Germany. In total, 98 respondents participated in the first and second part. The in-depth interviews were conducted with a sub-sample of 38 participants. The total sample consists of 65 students, 32 employees and one pensioner. For the in-depth interviews 19 students and 19 employees with no children, i.e. people who have a high degree of freedom of choice apart from their occupation, were selected. Table 1 describes the sample in more detail. It should be noted that the participants of the whole sample are predominantly young and highly educated. The likelihood for them to have a higher affinity for long-distance travel is greater than for other sociodemographic groups (Böhler et al., 2006; Czepkiewicz et al., 2018).

In the following, we focus on the quantitative measurement of long-distance travel behavior and the in-depth analysis of the interview material to address the main purposes mentioned above. The combination of these two

elements leads to insights in frequency of long-distance trips and the distinct reasons. To capture the number of one-day trips, we asked the participants about their past three months (*How often do you undertake day trips on the weekend (without staying overnight)? Please name the approximate number in the last 3 months*). Maximally the last two one-day trips are considered in detail and the distance, destination, means of transport and choice context (number of people traveling or luggage) are recorded. Regarding the overnight stays we asked for the total number within the past year (*How often do you travel per year privately with overnight stays (not business trips)?*). This category includes vacations, but also shorter trips that usually include overnight stays, such as visits or city trips. Afterwards, we asked respondents to list at maximum the last two trips with overnight stay in detail.

Table 1. Sample description and descriptive analysis of long-distance travel

	Sample (n=98)				Sub-sample interview (n=38)			
	< 30	30-45	46 -60	>60	< 30	30-45	46 -60	>60
Respondents in age group	78	11	7	2	27	5	5	1
	<i>Employee</i>	<i>Student</i>	<i>Pensioner</i>		<i>Employee</i>	<i>Student</i>	<i>Pensioner</i>	
Occupation status	32	65	1		19	19	0	
	<i>Yes</i>	<i>No</i>			<i>Yes</i>	<i>No</i>		
Gender (female)	50	48			21	17		
Graduate degree	78	20			28	10		
	<i>Mean</i>	<i>Std</i>	<i>Median</i>	<i>75%-quantile</i>	<i>Mean</i>	<i>Std</i>	<i>Median</i>	<i>75%-quantile</i>
Students								
Day trips*	3.1	2.7	2	5	3.3	2.3	3	5
Overnight stays**	9.7	9.25	7	15	13.4	10.0	12	20
Employee								
One-day trips*	3.4	3.0	3	5	3.3	2.9	3	5
Overnight stays**	8.1	6.1	6	12	10.2	6.6	10	16

* last 3 months; ** last year

First, we compare the number long-distance travel activities of students and employees captured with the travel skeleton. In Table 1, we provide figures on long-distance travel activities of the respondents. On average, employees have less trips (8.1) with overnight stays in the last year than students (9.7), but the standard deviation is smaller for employees. The median is substantially higher for students.

Overall, the examination of long-distance travel captured with the travel skeleton (first part) in comparison to the data captured in the travel diary (second part) reveals that the period of a 7-day travel diary is not long enough to survey recurring long-distance events as an integral part of individual mobility. However, the figures from the travel skeleton still cannot reveal the motives to travel long distances and whether a change in behavior would be possible through external stimuli, because information on the reasons for traveling long-distance trips are missing.

To better understand the motives for travel, in-depth interviews were conducted (third part). The interview consists of three sections with the last section focusing on long-distance travel. The first two sections deal with typical everyday travel behavior, such as regular activities within a person's usual environment (see Fig. 1). However, already the first two sections reveal hints that social obligations can turn into typical behavior and reach far beyond a weekly repetition. For example, a male student without long-distance trips in his reported travel diary mentioned a high number of trips with overnight stays in the travel skeleton. In the interview the motivation for doing so became clear: *"I probably go home [to his parents] every other weekend. Which in turn is linked to hockey [sport], as I play it frequently"*. If people still have a close relationship to their home region, it is difficult to distinguish these activities from their usual environment. Looking at individual motives for typical behavior can help reflecting upon the regularity and the importance attached to this behavior. Activities that are less important or self-evident for respondents are more likely to be not remembered when reporting.

When examining students, it is noticeable that there are behavioral differences for those coming from Karlsruhe, the greater region or from further away. Out of the 19 students interviewed, one comes directly from Karlsruhe, nine

students are from the region and another nine students from a more distant location. Table 2 shows the frequency of visits to family and friends. The nine respondents coming from the region of Karlsruhe have all a strong relationship with their family or partner in the region. For them visits are part of their typical behavior. Their places of origin are between 30 and 80 km away from Karlsruhe. However, some of the students coming from a more distant location also visit their home region regularly.

Table 2. Frequency of trips to visit family and friends

		Frequency of visits to family and friends (long-distance events)					Sum	n
	Place of origin	Weekly	Several times a month	Monthly	Less than monthly	Never		
Student	Karlsruhe region	22%	44%	22%	11%	0%	100%	9
	Distant location	0%	22%	22%	56%	0%	100%	9
Employee	Karlsruhe region	0%	0%	100%	0%	0%	100%	1
	Distant location	0%	0%	50%	50%	0%	100%	10

The interviews reveal some sort of social obligation: *“Usually I try to go home once a month” [male student]*. A male student from Luxembourg states: *“Normally, I go back home to Luxembourg after one or two months at most”*. Apart from the family, there are other reasons to go home as an employee with regular trips reported: *“Yes, doctor and hair dresser, that’s right. I still have a doctor in Wiesbaden, that’s why I have to go there every six weeks” [male researcher]*. However, the interviews show that regularity includes some degree of temporal flexibility, for example for participating special events. *“If it’s just more stressful, sometimes every two months, if mum has her birthday the week after next, then I just go home again after two weeks” [female student]*.

In addition to visits to family and friends, the interviewees also report about holidays with overnight stays. In terms of the number of trips with overnight stays (see Table 1), holiday trips explain an important part of all long-distance trips. In order to gain more knowledge about regularities and destinations of trips with overnight stays, the respondents were given a memory aid (see Fig. 2).

If the respondents mentioned a destination, they were asked the trip purpose and if the destination is visited frequently. However, the interview study rather concentrated on understanding typical behavior through regularity and less on individual reasons and motives. The overall study design was used to check the total number of trips reported in the travel skeleton and validate whether the number is overestimated or not.

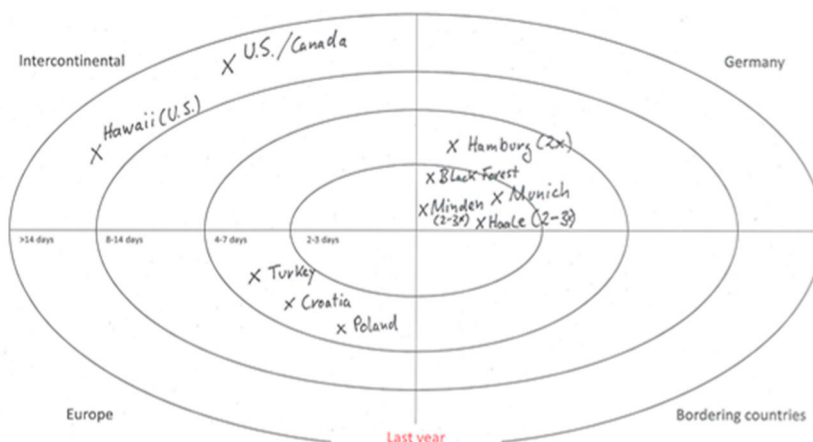


Fig. 2 Stimulus for long-distance travel in in-depth interview

Overall, study A provides valuable insights into the absolute numbers of one-day trips and trips with overnight stays using the travel skeleton approach. It was shown that the travel diaries reported over a rather short period of time are not able to capture data on most recurring long-distance events. The interviews allow for distinguishing regularly visited places from rare destinations which was not possible to be identified with neither the travel skeleton nor the trip diaries. There are also indications that regularly visited destinations are linked to some sort of social obligation. The analysis shows that many trips have other reasons than visiting people. In these cases, the destinations and frequency are more flexible. For some people, the holiday destination is more dependent on specific attributes: "*sea and a sandy beach*" [medical assistant]. The analysis in study A indicates that a distinction must be made between frequently visited destinations with or without social obligations and flexible or erratic holiday trips. For such holiday trips, a change to a more environmental-friendly destination choice is possibly easier than for trips caused through obligations. As such, the interviews were used to improve the interpretation of the quantitative part, which however did not focus on the subjective reasons for travelling in detail. The results indicate that long-distance travel events are highly heterogeneous and that individual-specific socio-demographic characteristics of the respondents are not sufficient to explain the occurrence of regularly occurring long-distance events or their changeability. For this purpose, we need to better understand the reasons and motives for traveling, which are best analyzed through a qualitative research design. Section 2.2 will therefore introduce a qualitative social network analysis that focuses on distinct relationships of the respondents instead of trip or person characteristics.

2.2. Study B: Using a social network approach

The second study is also a mixed-methods approach, but it is largely qualitative dominant. The primary data source are interviews conducted with a total of 27 respondents in Karlsruhe, Germany. The study is not predominantly dedicated to long-distance travel but to provide insight into the role that social relationships play for individual travel decisions. The approach is based on the argument that social relationships provide the setting for travel decisions, e.g. to see friends living at a distance, to attend business meetings or to shop in a special, though distant boutique. In this understanding, travel is no means to an end, which can easily be performed differently if sufficient incentives or alternatives are provided, but is linked to the characteristics of the relationship. The main objective of the study was thus to map the various relationships people have with other individuals, things and places and to examine how these relationships impact choice options (Puhe et al., 2021; Puhe et al., 2020). Different to existing social network approaches, a broader definition was chosen. A social network was defined as a web of social relationships that individual, corporate and collective actors form with each other. In this perspective, a social network includes other individuals such as family members or friends, as well as preferred clothing boutiques, sport clubs or holiday locations. The study was primarily developed to highlight the different meanings respondents assign to their social relationships and aims to assess the potential persistence of them.

The approach is based on a three-stage research design, consisting of two in-depth face-to-face interviews and a one-week travel diary. The first interview was a qualitative exploration of the social network of the respondent. Participants were asked to report with whom or what they interact on a daily, weekly, monthly or seldom basis and for what reason. This was achieved by using a network map as depicted in Fig.3.

The second interview addressed mobility aspects for keeping relationships alive, such as mode and destination choices. In between the two interviews, respondents had to fill out a travel diary over the period of one week (similar to the one used in study A). In addition, the travel diary revealed network partners that participants had forgotten in the first interview. The approach enabled to also map the typical behavior of the respondents, as introduced in study A. However, by putting the analytical focus on relationships, the approach provides rich descriptions of subjectively experienced constraints and freedoms, of reasons for keeping some relationships alive and for letting others go, of personal strategies to cope with uncertainties and structural changes, as well as the reasons for preferring particular relationships over others.

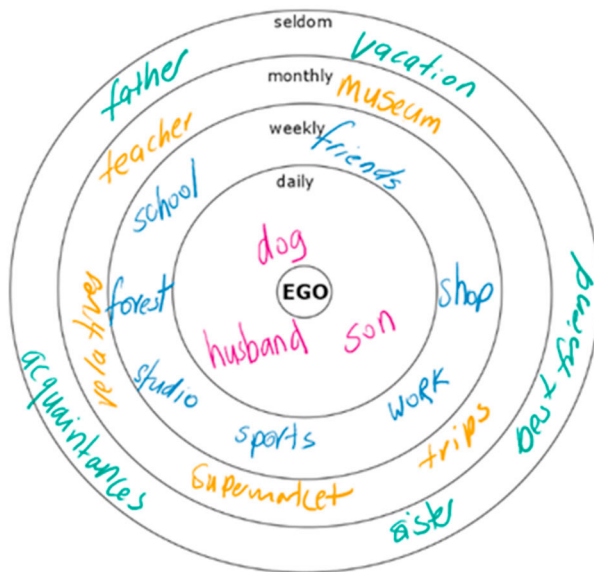


Fig. 3 Network map used during the interview to elicit social relationships of respondents

The sample comprises of young adults with and without little children (see Table 3), responding to the assumption that both groups differ in respect to their social obligations and to the freedom of choice to deal with these obligations. In this aspect study B is different to study A where the focus is mainly on people with a high freedom of choice and thus people without children in the household. In order to focus on social aspects of network configurations and corresponding travel decisions, spatial aspects of the respondents’ living environment are similar. All respondents of study B live in the same inner-city district of Karlsruhe, which is characterized by social diversity and the coexistence of different lifestyles. With regard to transport, the district provides good infrastructural connections offered by various tram stops and a diverse offer of service and product supply, such as restaurants, bars, supermarkets and playgrounds.

Table 3. Sample description of study B

		Household characteristics						
	Total	Living in Karlsruhe region		Employment status			Car availability	
		More than 5 years	Less than 5 years	Employee	Student/ Pupil	Other	Yes	No
Respondents with children	13	12	1	10		3	9	4
Respondents without children	14	8	6	7	7		7	7

The interviews point out that social preconditions of long-distance travel events are different, depending on relational aspects between the individual and the network partner. Overall, a substantial part of relationships at a distance are particularly meaningful for respondents. Among our sample, most participants cultivate a considerable amount of long-lasting relationships to other people or to particular places outside their usual environment. Among these are friends and family members, but also certain boutiques or holiday locations. In total, the respondents report about 415 social relationships, of which 120 are located in the region of Karlsruhe, in Germany or even outside Germany, implying some sort of long-distance travel. Among our interviewees, respondents without little children are having slightly more relationships outside the city boundaries than respondents with little children. This can be largely

attributed to more relationships in the region, while respondents with little children are having much more relationships in their district (see Table 4).

Table 4: Relationships of the respondents

	Relationship characteristics					
	Total	District	City	Region	Germany	Inter-national
Respondents with children	208	68	90	14	29	7
Respondents without children	207	39	98	35	27	8
Total relationships	415	107	188	49	56	15

However, not all relationships are equally intense and the perception of meaningfulness differs between respondents. Inspired by the theory of self-determination (Deci and Ryan, 1985), we operationalized the motivational ground of distinct relationships to assess the likelihood of relationships to persist. Central to the theory is a continuum of motivation, that categorizes activities, or in our case relationships, depending on the degree to which personal interests and social values have been internalized. This results in four major types of motivational regulation, at which the first two ends represent relationships that are perceived emotionally important or socially valuable and which are thus essential aspects of people's life and self-perception. The other end of the continuum is represented by relationships where the pressure to engage is rather coming from the outside, either to fulfill a role or to attain any form of outcome (see Fig. 4). Research in various fields such as sports, education, or health supports the hypothesis that the greater the perceived self-determination to engage in certain practices is, the greater is its persistence, even if associated with difficulties.

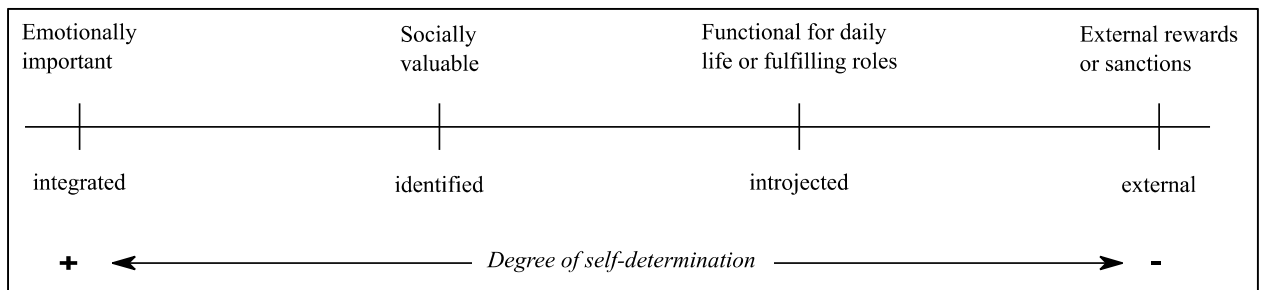


Fig. 4 Operationalization of motivation used in study B

Many of the reported long-distance travel events are internally motivated. For example, one respondent states *"I have decided to go home [about 160 km] once a month. There are the people I can always count on. Also to see my parents"* [No.8]. Another respondent sings in various choirs across southwest Germany, which requires him to participate regularly in fixed choir practices and concerts across the country. He states *"this is very binding for me. I take it very seriously. Not feeling good is no reason for me not to go."* [No. 9]. The interviews reveal that such interactions are regarded important or valuable – for the respondents' well-being or to express one's own individual personality or social belonging. More externally motivated travel becomes obvious by looking at a respondent who reports about regular shopping tours to a factory outlet in 110 km distance. The preferred store is not any outlet store, but one which provides organic clothes, which is popular among her peers. She states: *"I go there once a year. The discounts are enormous. You also get clothes there which are not available elsewhere. Well, this is more of a luxury trip I do for myself."* [No. 2]. What we aim to highlight by looking at the distinct types of motivation to travel over longer distances is that externally motivated relations are probably only kept alive as long as incentives for holding this relationship alive are effective. For respondent 2, for example, regular shopping tours to the outlet store are probably only maintained as long as she financially benefits from them. It is likely that she could replace this

relationship by something else. For respondent 8 though, his friends and parents are not replaceable, his motivation to travel to his hometown is mainly internal and thus important and necessary for him. Motivational aspects thus provide important insight for the persistence of relationships.

The network approach reveals as second aspect that people choose possible relationships by a certain order of commitment, which is largely depending on the planning horizon (Cullen and Godson, 1975) (see Fig. 5). For long-distance travel, we observe a high tendency towards long-planned arrangements, where interactions have been set up weeks or even months in advance. Most reported events are driven by special occasions as already identified with the interviews in study A, which appear as rather fixed and hard to rearrange appointments in one's schedule (e.g. birthday, Christmas, business trip). For example, one respondent reports about visiting his brother in another city and states: "No, it's really not spontaneous, either. We usually fix the next 2-3 dates in advance. These dates are safe then and I can organize the spontaneous things around that." [No. 21]. However, we also see that some long-distance events occur rather spontaneously. For these occasions, time and location are usually negotiable.

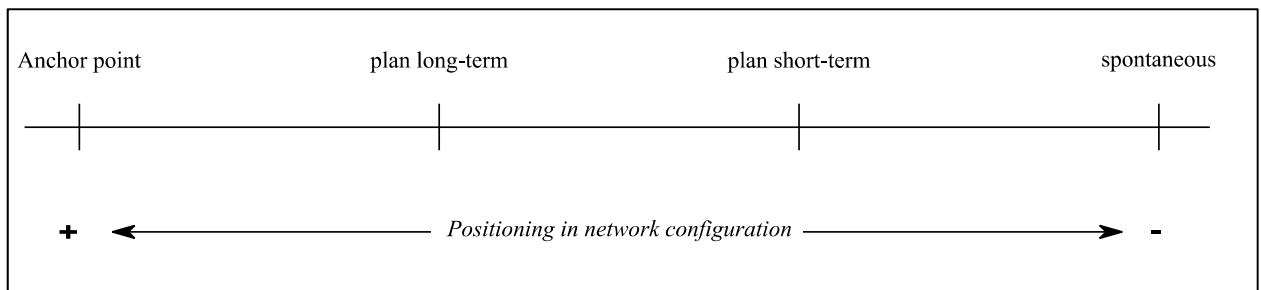


Fig. 5 Operationalization of commitment used in study B

Indicating the commitment of a certain relation points out that it can be hard to “avoid” travel if the relationship has a central position within someone's network configuration that is or can be demanded in return. Deciding to interact less often is not necessarily a matter of individual decision-making, but a matter of reciprocal commitment. It appears to be much harder to skip interactions if they are an integral part of a social network configuration than to skip relationships that are only joined if the occasion allows for it. In a medium-term perspective, however, we see that it is possible to change the position of a relationship within someone's configuration, e.g. in the course of biographic or life-changing events.

3. Discussion

In this section, we bring together the approaches and the findings on long-distance travel derived from the two studies presented. Although neither study was originally designed to specifically collect information on long-distance travel, the mixed-methods approaches allow to investigate the extent as well as the underlying reasons for long-distance travel. However, the studies start their analyses with different main objectives. While study B starts off with a relational understanding of travel to identify the social context in which travel occurs, study A concentrates mainly on individual mobility patterns in terms of volume and regularity.

To collect the number and frequency of long-events, a travel skeleton approach as presented in study A is useful. In comparison to a 7-day trip diary, the travel skeleton allows to collect typical travel behavior over a longer period of time and is thus less prone to random particularities which can occur in a random week of observation. In addition, the chance to collect a long-distance event in a 7-day travel diary is quite low, which could be seen both in study A and study B. Further, both studies show that the qualitative assessment with personal interviews reveal underlying reasons and motivations of long-distance travel. Both studies benefited from using visual aids to support respondents remember their relevant long-distance events (study A) or relationships (study B). The additional in-depth interviews of study A provide first insights into the motives and obligations related to long-distance travel. Since a large part of the respondents are students, a considerable amount of their long-distance travel can be explained by trips home to their parents. The results clearly show that long-distance travel is important for them and that some of these events

have a high degree of regularity. For several people, long distance-events are part of their typical travel behavior. The interviews indicate that social obligations of varying intensities exist and that there is a strong association between the frequency of long-distance events and feelings of social obligation. A more detailed determination of motives and obligations was not part of the study design of study A, but is addressed in study B. The interviews in study B reveal that motivations for keeping relationships at a distance can range from external rewards to emotional importance. For the latter, the importance of traveling to maintain this relationship is high even if it involves long distances. Another aspect which is revealed in both studies is the importance of special occasions limiting the choice of time and place for long-distance travel. The most popular example for this is traveling home on Christmas time. In this case, time and place are fixed and the need to travel is high due to social obligation.

It has to be considered, that the purpose of study B is to anticipate behavior stability and to assess possible resistance to change by drawing attention on relationships. We are aware that it remains a difficult task to assess the extent to which travel behaviors may change. So far though, stated-preference methods are the primary data sources for doing so. Their foremost problem is the absence of social context. The approach presented in study B aims to overcome this by uncovering the commitment and motivational elements of revealed long-distance relationships.

The two studies show that long-distance travel is a relevant issue in terms of its scope and dimension and that surveying typical behavior reveals additional information to random trip reporting. The additional interviews conducted in study A indicate that there are various reasons for undertaking long-distance travel. Study B examines these reasons in-depth. The main outcome of the comparison is the relevance of social contexts when analyzing long-distance travel patterns. Long-distance travel is often labelled as a leisure activity that is easily adaptable to time and place and which can be influenced through behavior change programs. However, the studies show that social preconditions are essential drivers and important for anticipating possible resistance. This finding indicates that political interventions are extremely challenging.

4. Conclusion

In this paper, two mixed-methods approaches are presented, both investigating long-distance travel events as part of the overall mobility of people. From two distinct angles, both studies contribute to the explanation of why people travel long distances. Study A focuses on individuals and their characteristics, while study B is characterized by its relational focus. Both studies highlight the complexity of long-distance travel, particularly with regard to their social preconditions. The travel skeleton approach of study A reveals a strong association between the social obligations to visit certain people or places and the frequency of such visits. The Social Network Analysis of study B reveals the analytical strength of focusing on relationships. It becomes clear that certain relationships are not easily substitutable. Both studies reveal a linkage between the repetition of long-distance travel and the social obligation of individuals to visit certain people or places. To cultivate long-lasting relationships is often a reason for individuals to undertake long-distance travel on a regular basis. Further, both studies reveal that people feel obliged to travel to distant places, due to the personal importance attached to activities at the destination.

Travel behavior research attempts to examine the frequency, destinations, and choice of transport for long-distance travel and also to derive potential for future policies. For reasons of minimizing the impact on the environment, the question arises as to whether travel can be prevented by changing behavior. This idea neglects the fact that the reasons for travel are different for each individual and trip. Especially trips with a high social obligation have little potential to be avoided. The mere questioning of trip purposes, as is often done in empirical quantitative studies, is not comprehensive enough to capture the reasons for long-distance travel. The meaning of the trip for the individual remains unclear. Furthermore, capturing the number of long-distance trips gives no indication of whether a trip is flexible in terms of time and place. The study of the two survey designs in this paper shows that conducting qualitative surveys adds great value to the understanding of long-distance travel compared to a straightforward collection of information on past long-distance events. However, further research is needed to improve qualitative approaches and to develop quantitative survey methods embedding these findings. Another question that remains unanswered is whether the use of interviews as opposed to questionnaires helps to trigger people's memory. Especially with respect to the distances travelled and the resulting emissions from long-distance travel, the lack of knowledge needs to be addressed in further research.

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