

How does low income affect older people's travel practices? Findings of a qualitative case study on the links between financial poverty, mobility and social participation

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ABSTRACT

Financial poverty, mobility and social participation are interrelated. This nexus makes old-age poverty a highly relevant issue in terms of transport-related social exclusion in an ageing society. To understand how financial poverty affects older people's travel practices and how they cope with their limited financial resources, we conducted qualitative interviews with low-income older people (aged 60 and above) in Ronnenberg (Hanover region, Germany). Although all the respondents have comparably limited financial resources, using a practice theory perspective along the elements of materials, competences and meanings (Shove et al., 2012), we identified three different types of low-income older people by their travel practices: (i) active older people with multi-faceted social interactions, (ii) neighbourhood-oriented older people with local interactions and (iii) home-centred older people with few social interactions. From our analysis, we conclude that financial poverty shapes each element of low-income older people's travel practices and thereby increases the risk of transport-related social exclusion: (i) certain materials have to be financed, which is challenging or even impossible due to financial poverty; (ii) meanings of travel practices are strongly linked to other practices, thus, if (also for financial reasons) no or a limited range of destinations are mentioned, travel practices are restricted in their frequency and distance; and (iii) necessary competences to be mobile and engage in social activities despite low financial means seem to be differentially available or - more cautiously formulated - less often utilised by low-income older people, which may lead to them abandoning travel practices and related social activities.

1. Introduction

Old-age poverty is a highly relevant issue in an ageing society. The number of older people aged above 65 worldwide will more than double by 2050 (United Nations, 2019). For Germany in 2030, the population aged 20 to 65 is expected to decrease by 3.8 million while the number of people aged 65 and above will rise by almost the same number (German Federal Ministry of Labour and Social Affairs, 2021). Although older people do not have the highest risk of poverty compared to other groups of people such as households with children in Germany (German Federal Ministry of Labour and Social Affairs, 2021), poverty in old age is a societal concern for several reasons. Firstly, almost one fifth of the proportion of people aged 65 and over are affected or at risk of financial poverty (German Federal Ministry of Labour and Social Affairs, 2021). Secondly, in an ageing German society with a pension system based on an intergenerational contract, it is not surprising that almost half of

people over 18 express fears of being affected by financial poverty in later life (Ahrendt et al., 2017). Thirdly, once affected by financial poverty, it becomes increasingly difficult to change one's own financial and living conditions with advancing age, i.e. there is a risk of remaining in poverty (German Federal Ministry of Labour and Social Affairs, 2021).

Financial poverty, mobility and social participation are interrelated (Social Exclusion Unit, 2003). Mobility is a basic requirement to participate in social life, but as transport always involves costs, this poses a challenge for people on low income. This is particularly evident since the economic dimension is ubiquitous in studies on transport-related social exclusion (Cass et al., 2005; Church et al., 2000; Jones & Lucas, 2012; Kenyon et al., 2002; Lucas, 2012; Lucas et al., 2016), a multidimensional process in which people have reduced access to certain areas of life compared to others or to earlier life stages (Schwanen et al., 2015).

Demographic change in many Western countries (United Nations,

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2019) has repeatedly brought older people into the focus of transport research in recent years (e.g. Gallo et al., 2022; Metz, 2000; Schwanen & Páez, 2010). Studies focusing on older people highlight that a lack of mobility has a negative impact on their social participation (Shergold & Parkhurst, 2012), quality of life (Banister & Bowling, 2004), independence (Schwanen et al., 2012), state of health (Musselwhite et al., 2015) and subjective well-being (Green et al., 2014; Shergold, 2019; Siren & Hakamies-Blomqvist, 2009; Ziegler & Schwanen, 2011). However, to the best of our knowledge, there are limited studies on low-income older people (e.g. Chudyk et al., 2017b; Franke et al., 2019; Giesel & Köhler, 2015). Usually, studies analyse income as one of many factors that may influence the travel practices of older people (Haustein & Siren, 2015). Therefore, with a specific focus on limited financial resources from the perspective of practice theory, we examined how low income affects older people in transport and social participation.

In this study, we investigate not only how a low income affects older people's travel practices, but also how they cope with financial constraints and what effects on social activities occur. For this purpose, we conducted 14 qualitative problem-centred interviews (Witzel & Reiter, 2012) with low-income older people in Ronnenberg (Germany) and used qualitative content analysis to analyse the data (Kuckartz, 2014) focussing on the three elements materials, meanings and competences of travel practices (Shove et al., 2012). Subsequently, we derived three types of low-income older people by their travel practices: (i) active older people with multifaceted social interactions, (ii) neighbourhood-oriented older people with local interactions and (iii) home-centred older people with few social interactions.

The rest of our article is structured as follows. Section 2 summarises earlier research on older people's travel practices with a special focus on limited financial resources and the theoretical framework of practice theory. Subsequently, we describe our case study and research methodology in Section 3. Section 4 contains our results and Section 5 the discussion and conclusions.

2. Research background

2.1. Older people and their travel practices

Older people are a heterogeneous group (Schwanen & Páez, 2010) including people aged 60 to over 100 (Shergold, 2019). Biological ageing is only loosely related to age (WHO, 2018) and, therefore, older people are not generally restricted in their mobility and activities in later life. Previous studies on older people demonstrate that their travel practices can be better explained by taking factors like travel purposes, health and social networks into account, rather than only age.

Older people's activities and travel purposes are affected by life events such as retirement or widowhood (Haustein & Siren, 2015). For example, with retirement there is no longer a need to commute while simultaneously more time is available for leisure activities, voluntary work and family gatherings (infas et al., 2019a; Schuppan, 2020). When groceries have to be carried, this load can be strenuous for older people. While studies from America and Canada (Abou-Raya & ElMeguid, 2009; Gallo et al., 2022; Lachapelle & Cloutier, 2017) show that older people avoid walking because it is not always safe, those in Europe tend to walk more frequently for shopping and other activities (Arranz-López et al., 2019). Neighbourhood quality and walkability are of great importance to older people and their out-of-home activities (Chudyk et al., 2017a; Giesel & Köhler, 2015; Kasper & Scheiner, 2002; Oswald & Konopik, 2015).

Another factor that influences older people and their travel practices is health. Some physical limitations can be overcome by using mobility devices like walkers, wheelchairs and walking sticks in a pedestrian-friendly environment or even by using a car (infas et al., 2019a; Prescott et al., 2020; Siren & Hakamies-Blomqvist, 2009). However, others cannot, such as medications that render one incapable of driving or cycling, limited eyesight or fear of falling when walking or using public

transport (Hill et al., 2020; infas et al., 2019a; Luiu et al., 2018b; Luiu & Tight, 2021). The connection between health and mobility is ambivalent here, as being mobile is beneficial for physical and mental health, but simultaneously health restrictions may prevent mobility (Musselwhite et al., 2015).

A supportive social network can sustain older people in their mobility and social participation, especially if certain transport modes are no longer an option (e.g. if their partner has passed away and travelling as a car passenger is no longer possible (Webber et al., 2010)). Studies show that people without car access may compensate for this with lifts or goods delivery from relatives, neighbours or friends (Belton Chevallier et al., 2018; Coutard et al., 2004; Davey, 2007; Gallo et al., 2022). Many people living alone in old age, especially if widowed, have a higher demand for leisure activities and social contacts outside their homes than people who live with their partners (Haustein, 2012; Nordbakke, 2013; Nordbakke & Schwanen, 2015). Moreover, older people who feel a sense of belonging to their neighbourhood, live with others and engage in voluntary work are less likely to experience loneliness and social exclusion (Urbaniak et al., 2021; van den Berg et al., 2016).

2.2. The effect of limited financial resources on travel practices

Transport affordability is a challenge for low-income people (e.g. Lucas et al., 2016; Mattioli, 2017; Serebrisky et al., 2009). Owning a car and financing its use is demanding for people on low incomes (Belton Chevallier et al., 2018; Gallo et al., 2022) and may also lead to restrictions in other areas of life, like heating their home (Mattioli, 2017; Ortar, 2018) or buying groceries (Rozynek et al., 2022). Therefore, it is not surprising that the proportion of low-income older people in Germany who have car access is lower than for those with higher incomes (Giesel & Köhler, 2015). The German national travel survey "Mobilität in Deutschland" (MiD) demonstrates that among people over 70 in 2017, 61 % of very low and 65 % of low economic status¹ (infas et al., 2019c) own a private car, while people of the same age but with higher economic status have a higher share of car ownership (81 % of middle, 94 % of high and very high economic status) (infas et al., 2017b).

Public transport use is also linked to costs that are challenging for people on low incomes (Bondemark et al., 2020; Dabelko-Schoeny et al., 2021; Daubitz, 2016; Inguglia et al., 2020; Perrotta, 2017; Titheridge et al., 2014). Thus, studies prove that low-income people are forced to buy more expensive single tickets (Bondemark et al., 2020; Jones & Lucas, 2012), as high one-off payments for weekly or monthly tickets are not always affordable or they are even forced to practise fare evasion (Perrotta, 2017; Schwerdtfeger, 2019). In Germany, for example, those aged above 65 at risk of poverty have a lower share of public transport season passes than those with higher incomes. Among those aged over 65, only 4 % of men and 8 % of women at risk of poverty, as opposed to 8 % of men and 12 % of women with higher incomes, own a public transport season pass (Giesel & Köhler, 2015).

Cycling and walking are generally considered to be cost-effective transport modes (Chudyk et al., 2017a; Chudyk et al., 2017b; Handy et al., 2014; Hilland et al., 2020; Sarrica et al., 2019). But, as Rozynek et al. (2022) argue, the link between poor financial resources and cycling is not clear in previous research. While many studies show no influence of income on cycling (Javaid et al., 2020), studies from Germany indicate that the level of bicycle ownership and use decreases with lower incomes and lower education levels (Hudde, 2022; infas et al., 2019b). In Germany, only 49 % of people over 70 with a very low and 50 % with a low economic status have a bicycle available, while the percentage of people of the same age is higher with a middle (59 %),

¹ The economic status (5 categories) of a household is based on the OECD scale determined by net income and weighted household size (infas et al., 2019c).

high (65 %) and very high (63 %) economic status (infas et al., 2017a). Studies in the U.S. and Canada indicate that low-income older people without cars tend to buy smaller daily purchases and even use taxis to return home, but rather as a last resort as this involves additional costs (Franke et al., 2019; Gallo et al., 2022; Luijck et al., 2018a).

Moreover, a low income may limit not only older people's transport mode choice, but may also lead to unfulfilled activity wishes, for example in terms of leisure (Franke et al., 2019; Kasper & Scheiner, 2002). A study on low-income households with children (Rozynek et al., 2022) shows that financial poverty not only limits the affordability of transport modes, but also out-of-home activities, e.g. entrance fees. Thus, a low income may contribute to transport-related social exclusion.

2.3. Practice theory

Practice theory has its origin in the disciplines of philosophy and sociology (Reckwitz, 2002; Schatzki, 1996; Shove, 2003) and is being increasingly used in mobility and transport research (see Kent, 2021 for an overview). Practices are 'a routinized type of behavior' (Reckwitz, 2002, p. 249), 'a temporally and spatially dispersed nexus of doings and sayings' (Schatzki, 1996, p. 89) and consist of interconnectedness of elements like 'forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge' (Reckwitz, 2002, p. 249). Shove et al. (2012) propose three interwoven elements for analysing practices: materials, meanings and competences. Materials include "objects, infrastructures, tools, hardware and the body itself" as the carrier of practices (Shove et al., 2012, p. 23). Competences are understood as "skill[s], know-how and technique[s]" (Shove et al., 2012, p. 14) that are needed for practices. Meanings "include symbolic meanings, ideas and aspirations" (Shove et al., 2012, p. 14), "emotion and motivational knowledge" (Shove et al., 2012, p. 23) and "the social and symbolic significance of participation" (Shove et al., 2012, p. 23).

As the three elements are connected to each other, so are different practices as so-called bundles (Shove et al., 2012). This means that travel practices like cycling are linked to other practices such as going on a leisure trip or grocery shopping. Kent (2021) (see references) suggests the term 'direct transport practices' and 'practices facilitated by transport'. The former would be - to stay with the example - the riding of the bicycle itself, the latter the participation in the bicycle trip or grocery shopping through cycling. By focusing on the details of travel practices, i.e. analysing them along the elements and taking the interconnections between different practices into account, practice theory has the potential to generate deeper knowledge about transport as social practices (Kent, 2021) see references. We use the element-based approach according to Shove et al. (2012) as a perspective and analytical lens to investigate the influence of limited financial resources on older people and their travel practices.

3. Case study and research methodology

For our case study,² we collected qualitative data³ in Ronnenberg, a city directly bordering Hanover, the capital of Lower Saxony (Germany). There are 1.2 million inhabitants in the entire Hanover region and 25,000 in our study area (Region Hannover, 2020). Compared to other

² The project is funded by the German Federal Ministry of Education and Research (BMBWF) with the aim of increasing social participation by strengthening mobility. The Hanover Region authority with its transport and social planning department is part of the project as well as the University of Kassel and the transport planning office WVI in Braunschweig.

³ The data collection and analysis of the interviews with the older people was undertaken in parallel with that of the group of low-income households with children. The methodology is therefore very similar to the one outlined in Rozynek et al. (2022).

municipalities in the Hanover region, the city of Ronnenberg, with 11 % of its residents receiving social benefits, is characterised by above-average unemployment and a higher risk of living in poverty (Region Hannover, 2015). The seven districts of Ronnenberg differ slightly from each other. Empelde is directly adjacent to Hanover and, in addition to a suburban railway and bus lines, there is also a tram line. The districts of Ronnenberg and Weetzen are also on the suburban railway, while the districts Benthe, Ihme-Roloven, Linderte and Vörie are connected to the public transport system by bus only (Fig. 1). Overall, Ronnenberg is well connected to the city of Hanover by footpaths, cycle lanes, roads and public transport.

In order to participate in our study, interviewees had to fulfil the following criteria: (i) live in Ronnenberg, (ii) be aged 60 or older and (iii) have a low income. While the first two criteria were easy to check, the latter turned out to be more complex in practice. As we do not focus on absolute but on relative poverty, we did not set a fixed income limit when recruiting interviewees. However, to ensure that only people affected by or at risk of financial poverty participate, we worked closely with local institutions aware of the financial situation of their clients, such as the social planning office, church organisations and a debt counselling service. From first interviews with low-income older people and conversations with social workers, we deduced that we would likely find more potential interview partners at discounters or at a food bank, which is why we recruited there using flyers. In addition, we found further interviewees by using the snowball technique, i.e. through people who had already been interviewed (Flick, 2009). This was fruitful because acquaintances knew about the financial situation of the potential interviewees and also because trust could already be built up through a shared contact. Moreover, based on a short socio-demographic questionnaire, we were able to estimate whether the interviewees were at risk of or affected by financial poverty, as we asked for their net income and their sources of income before each interview (Table 1). Additionally, we asked about ownership of a Region S card as a supplementary indicator, as such a card is automatically sent to people who receive social benefits, i.e. those financially supported by the state. As an incentive for participation, the interviewees received tickets for the zoo in Hanover or, alternatively, a shopping voucher for a grocery shop or pharmacy. Through this combination of different recruitment approaches, we managed to find a total of 14 suitable interview partners who were also willing to speak about the sensitive topic of financial poverty.

The fieldwork took place between March and September 2020, a time during the pandemic when there was no lockdown and few to no restrictions on social life. Our semi-structured interview guide⁴ consisted of three parts: (i) daily activities and travel, (ii) social network and social activities and (iii) assessment of how financial poverty influences social activities and travel. Additionally, we used a standardised socio-demographic short questionnaire and compiled post-scripts of each interview. Audio recording and subsequent transcription was done in full for each of the face-to-face interviews with an average length of 71 min. The interview locations varied, but most of the interviews took place at the respondent's home, at a social institution or café.

The recruitment process was successive, i.e. it developed during the empirical survey following theoretical sampling (Przyborski & Wohlrab-Sahr, 2014). Thus, with each interview, new and supplementary information should be obtained and when theoretical saturation (Flick, 2009) was reached, i.e. no new insights could be drawn from further field research, the recruitment ended. A preliminary analysis of field notes and postscripts of the interviews conducted so far made it possible to check whether this theoretical saturation had been achieved. In total, we conducted problem-centred interviews (Witzel & Reiter, 2012) with 14

⁴ The impact of Covid-19 was not part of the open-ended questions we asked, but interviewees could have addressed the pandemic themselves if this had been part of their travel practices.

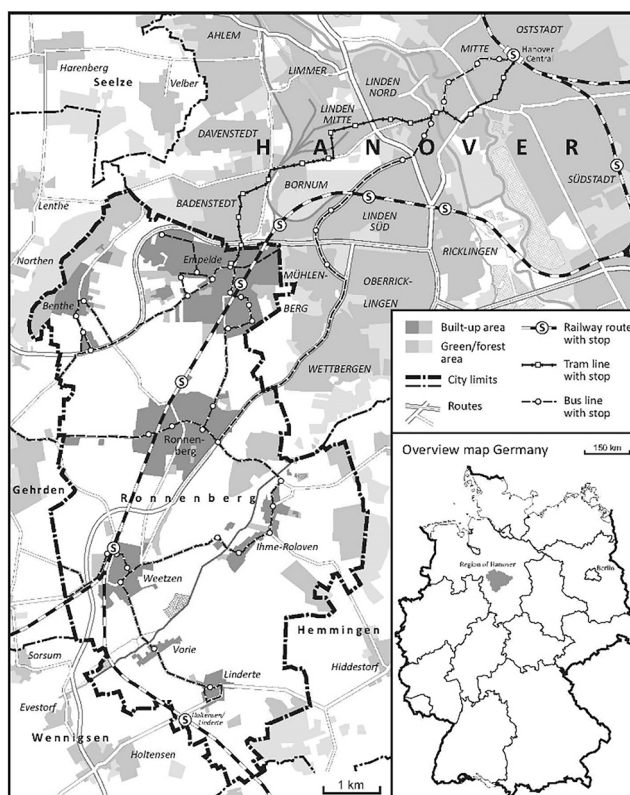


Fig. 1. Research area of Ronnenberg (Cartography: Elke Alban).

Table 1
Overview of the interviewees.

ID*	Age	Housing	Marital and partnership status	Children	Financial situation		Typology of low-income older people by their travel practices (Section 4)
					Source of income	Personal net income (in EUR)	
#1M64	64	Alone	Single	1	Social benefits	500–900	Active older people with multifaceted social interactions
#2F66	66	With partner	Married	3	Pension and side job	1500–2000	Active older people with multifaceted social interactions
#3M63	63	Alone	Single	0	Pension	500–900	Home-centred older people with few social interactions
#4M60	60	Alone	Divorced	1	Social benefits and side job	500–900	Active older people with multifaceted social interactions
#5F62	62	Alone	Widowed	2	Social benefits	500–900	Home-centred older people with few social interactions
#6F86	86	Alone	Divorced	1	Pension	900–1500	Neighbourhood-oriented older people with local interactions
#7M66	66	Alone	Divorced	1	Pension and social benefits	500–900	Neighbourhood-oriented older people with local interactions
#8F79	79	Alone	Widowed	2	Pension	900–1500	Neighbourhood-oriented older people with local interactions
#9F61	61	Alone	Divorced and now in a relationship	1	Pension	500–900	Neighbourhood-oriented older people with local interactions
#10M65	65	With partner	In a relationship	2	Pension and side job	900–1500	Active older people with multifaceted social interactions
#11F82	82	Alone	Widowed	1	Social benefits	500–900	Neighbourhood-oriented older people with local interactions
#12F63	63	Alone	Widowed	1	Social benefits	0–500	Home-centred older people with few social interactions
#13M87	87	Alone	Widowed	0 (1 deceased)	Pension	900–1500	Neighbourhood-oriented older people with local interactions
#14F65	65	Alone	Widowed	1 (1 deceased)	Pension	500–900	Home-centred older people with few social interactions

*ID=#1–14=number + M=Male or F=Female + Age.

respondents aged between 60 and 87 (Table 1). Eight of them were female and 13 had living children. With the exception of two people, all interviewees lived alone. This was mostly due to divorce or their partner had passed away.

We used thematic qualitative text analysis as a form of qualitative content analysis (Kuckartz, 2014) with deductive and inductive coding to analyse our data material. We formed categories along the common transport modes, such as walking, cycling, driving, public transport and taxi use in all interviews. We were guided by theory along the three elements of materials, competences and meanings (Shove et al., 2012). In this way, we were able to highlight the reasons why certain travel

practices are performed and others not by our interviewed carriers, i.e. whether there is either a lack of the required materials, a lack of competences to carrying them out or a travel practice is attributed no or a negative meaning. Additionally, we coded social and financial aspects inductively from the data material. In doing so, text passages were frequently matched to more than one category. We repeated the coding process for all interviews when new categories were added inductively.

A first category-based cross-case analysis showed that financial and social aspects were reflected both differently and similarly in the materials, competences and meanings of older people’s travel practices. In order to reduce complexity, we wrote thematic case-related summaries

following the research question, based on the links between the categories of financial aspects and the three elements of travel practices as well as on the link between the categories of financial aspects and social aspects.

As a result of these thematic case-related summaries, we decided to conduct a type-building analysis (Kuckartz, 2014). This is because we identified different but also overlapping travel practices. Moreover, the typology is an abstraction from the individual level and thus in line with the perspective of practice theory. Following the research interest, i.e. the links between financial poverty, mobility and social participation, we defined the attribute space and contrasted the interviewees' practices along three attributes, namely the respondents' (i) transport mode options, (ii) social interactions and (iii) coping strategies with limited financial resources. Thereby, we identified three different types of low-income older people by their travel practices. We built so-called natural types, which "are built directly using the empirical data, meaning that respondents are grouped according to types, which are as homogenous as possible internally and as heterogeneous as possible externally. Such types are almost always polythetic; the individuals that belong to a type are not absolutely the same in terms of the attributes within the attribute space, but they are quite similar" (Kuckartz, 2014, p. 110).

We would like to point out that the practice-theoretical perspective, following the three elements of materials, competences and meanings, has always been central, i.e. from the development of the research questions to the data analysis and the presentation of the empirical results. Moreover, we would like to clarify that we understand the interviewees as carriers of travel practices. In the following chapter, we explain the three types of older people's travel practices in detail and, using the element-based approach, subsequently demonstrate how financial constraints are reflected in the three elements of older people's travel practices.

4. Typology of low-income older people by their travel practices

Using type building analysis, we derived three types of low income older people by their travel practices: (i) active older people with multifaceted social interactions, (ii) neighbourhood-oriented older people with local interactions and (iii) home-centred older people with few social interactions. For each type, we discuss below their: (i) type definition and description, (ii) transport mode availability and (iii) coping strategies with limited financial resources. Section 4.4 discusses low-income older people's travel practices along the three elements of materials, competences and meanings.

4.1. Active older people with multifaceted social interactions

Aged 60 to 66, the four interviewees of the 'active older people with multifaceted social interactions' type are relatively young (#1M64, #2F66, #4M60, #10M65). Their main income sources are pensions (#2F66, #10M65) and social benefits (#1M64, #4M60). Additionally, the respondents of this type actively counteract their low income through side jobs (#2F66, #4M60, #10M65). In one case (#1M64), the financial situation is self-selected through voluntary unemployment:

"I am glad I pulled the plug. I said, count me out. What's the point of that? So, if I earn 5,000 [euros] a month but am totally exhausted. I am happy with Hartz4 [social benefits]." (#1M64)

Engaging in many out-of-home activities with social interactions and being very mobile is what defines them. They regularly travel outside of Ronnenberg for their side jobs, voluntary work or leisure and occasionally travel to other German cities, within Europe (#1M64, #2F66) or even around the world (#10M65). All four interviewees have a broad and stable social network, including their partners with whom they live together (#2F66, #10M65), their children, neighbours (#2F66, #4M60) and friends with whom they spend leisure activities. They travel for holidays (#1M64, #2F66, #10M65) and pursue various

hobbies, such as swimming (#10M65), sewing and knitting groups (#2F66) or sports courses (#1M64). Moreover, their voluntary work and side jobs expand their social network.

All four interviewees have a driving licence and three of them own a private car (#1M64, #2F66, #10M65). Private circumstances hinder one interviewee from financing a car at the moment (#4M60). Although two people (#2F66, #10M65) can share the car's running costs with their partners, no one can drive his or her car every day because fuel costs are not affordable (#1M64, #2F66, #10M65). All respondents use public transport. No one needs walking aids, such as walkers, crutches or walking sticks, even if one person (#10M65) is not physically able to cycle or walk longer distances. Those who are not physically impaired walk and use their own bicycles regularly (#1M64, #2F66, #4M60).

Respondents of this type use different strategies to deal with their limited financial resources. Some of these strategies are directly related to financing transport modes. For example, all three car owners rarely use their cars to keep fuel costs low (#1M64, #2F66, #10M65). Instead of driving a car themselves, they travel with friends (#2F66), use public transport to travel into the city of Hanover (#1M64, #2F66, #4M60, #10M65) and cycle or walk for shorter distances (#1M64, #2F66, #4M60):

"We need one fuel tank a month. [...] And we manage well with that. The distances here are short, so we also cycle a lot, which means that we don't even get the car out." (#2F66)

Furthermore, one person (#2F66) reports purchasing a second-hand e-bike on the internet and the person without his own car (#4M60) protects his bike from theft, as he cannot easily buy a new one:

"My [bicycle] is currently the only, most important transport mode I have [...] And I don't want to have it stolen, to be honest [...] I watch it like a hawk." (#4M60)

To reduce public transport costs, one woman only buys single tickets and so controls her costs, as she uses public transport only occasionally (#2F66). Two others receive social benefits and, therefore, reduced monthly passes (#1M64, #4M60) and one person owns a reduced annual ticket due to his disabled pass (#10M65):

"I am severely disabled [...] and that is why I have an annual travel pass. So, I pay 80 euros once a year and for that I can use any local transport in Germany." (#10M65)

People of this type also use saving strategies for long-distance travel. For example, one person owns a BahnCard⁵ (#10M65), another one buys toll stickers for trips abroad second-hand online (#2F66), and one person searches cheap tickets for trains, flights and long-distance buses on the internet (#1M64):

"It is cheaper if you book early. [...] I am unemployed and therefore have time. I always look for cheap offers. [...] Once there was an offer of one euro to Faro [...] Yes, I have travelled everywhere for little money." (#1M64)

In addition to strategies for financing transport modes, people of this type try to save money on grocery shopping by foregoing certain foods (#4M60), resorting to cheaper frozen food (#2F66, #4M60), buying goods on special offer from promotional leaflets (#2F66) or visiting food banks and food sharing campaigns (#1M64):

"We have leaflets and then I make a list of where [in which shops] things are cheap. [...] When I ride my bike, we go almost everywhere. [...] Because otherwise our money would definitely not be enough sometimes." (#2F66)

They also reduce their expenses on clothes (#1M64, #2F66, #4M60), buy second-hand and from flea markets (#2F66), clothing

⁵ Discount German rail (Deutsche Bahn) pass.

donations (#1M64) or cheap clothing stores (#4M60):

“I know how to save money. I hardly spend any money on clothes. [...] I have not bought anything for twenty years. [...] Well, I buy new underwear. But, the rest I can always get somewhere else. [...] There is also a clothing shop for Hartz4 [social benefits] recipients and you can pick up anything there.” (#1M64)

In addition, all respondents save costs by meeting friends at home instead of restaurants or places that require entrance fees. Also, their voluntary work goes along with doing inexpensive leisure activities, e.g. board game evenings or language courses (#1M64, #2F66). Overall, despite their low financial means, the respondents of this type do not report many limitations to their social activities, but more about the many things they experience, such as taking part in various hobbies and enjoying holidays:

“Actually, I am very satisfied. I don't like sitting at home [...] and I am engaged in a lot of social activities. [...] We go on holiday once a year, maybe even twice a year if we get something cheap. [...] Besides that, we have our allotment garden.” (#2F66)

4.2. Neighbourhood-oriented older people with local interactions

The six respondents of the type ‘neighbourhood-oriented older people with local interactions’ are constrained in their mobility due to their financial situation and also due to age-related physical complaints (#6F86, #7M66, #8F79, #9F61, #11F82, #13M87). However, they travel and have as many social interactions as possible for them. They are aged between 66 and 87. All of them are either divorced (#6F86, #7M66, #9F61) or widowed (#8F79, #11F82, #13M87). Only one person is in a new relationship (#9F61). They all live alone but have a social network that supports them in everyday life and shares leisure activities with them. None of the interviewees has a supplementary income. Therefore, they all live on what they receive as pension or social benefits. Unlike the first type, the social interactions of these older people are focused on the neighbourhood, i.e. the municipality of Ronnenberg, in which they live. Their daily activity places include a day care centre for older people (#6F86), a neighbourhood centre with various activities such as board game evenings (#9F61, #13M87), the church (#8F79, #13M87), a lunch table for older people (#9F61, #13M87), a sports club (#7M66), a food bank (#11F82) and local shops to meet people by chance (#8F79). Their social network mainly includes their family members, in one case also their partner (#9F61), and is extended by people they meet at the places listed above:

“I always say that the day care centre is my second family.” (#6F86)

The transport mode options vary in this type but are mostly characterised by the fact that, with one exception (#9F61), they are all physically limited in their mobility. Their physical limitations are partly compensated by the use of walkers, walking sticks (#8F79), wheelchairs, ambulance transport (#6F86) and car driving instead of walking (#7M66). Physical limitations are also barriers to cycling (#6F86, #8F79, #11F82). Those who are physically able (#7M66, #9F61, #13M87) and who also own a functional bicycle use it for leisure purposes (#7M66) or for grocery shopping (#13M87). Apart from the wheelchair user (#6F86) and one respondent with a general aversion to public transport (#7M66), people of this type use it. The car has different meanings for the respondents of this type. For example, two depend on it because of their physical limitations, one drives it himself (#7M66) and one travels as a passenger in ambulance transports or with

relatives because she cannot leave her home independently (#6F86). The interviewee who is in a relationship does not have a driving licence herself, but travels a lot as a passenger with her partner (#9F61):

“Because he [her partner] also drives me a lot, even if I have to go to the doctor in town sometimes.” (#9F61)

For the others, driving is not of great importance in everyday life, as they either do not have a driving licence at all and only occasionally travel with family members or acquaintances (#6F86, #8F79, #11F82) or, if they have a licence, no longer own a car for financial reasons (#8F79) or use it very rarely (#13M87).

For the ‘neighbourhood-oriented older people with local interactions’ costs may already arise for walking, as some need walking aids. These are covered by the German health insurance system with the exception of a small co-payment. The interviewee who is dependent on ambulance transport receives financial support from her family (#6F86), who co-finance her care. The interviewee who cannot walk and needs to finance his car receives direct financial support from his mother (#7M66):

“In the middle of the month, my financial limit comes to an end. Then I practically live half the month so to speak off my mother. As sad as that is.” (#7M66)

The two car owners minimise refuelling costs by hardly using the car (#13M87) and avoiding unnecessary or long car trips (#7M66). Nevertheless, financing car use is challenging:

“There is just food and drink. Well, and refuelling. And that's it. That's all there is.” (#7M66)

To use public transport, disabled persons (#8F79, #13M87) can purchase a reduced annual travel pass, which is valid throughout Germany. Without this discount, using public transport would hardly be affordable for one interviewee and would lead to less or no use of public transport (#8F79). She (#8F79) reports that when she lost her disabled person's pass, she was unable to use public transport unless her daughter lent her a transferable public transport ticket:

“That's sad. I haven't been able to ride a tram for over a week now [...]. I can't go anywhere. That is certainly a restriction. And 5.60 [euros] for a ticket [...]. That's really expensive [...] My daughter has a monthly ticket, which I can borrow [...] then I travel using her ticket.” (#8F79)

Older people on social benefits (#9F61, #11F82) can use public transport at reduced prices. For one interviewee (#11F82), this is the basic requirement for not moving home, as she needs public transport to buy groceries:

“[without the reduced monthly pass, public transport use would] not be affordable and I would not continue living here. Because I can't go shopping here and you have to be a bit mobile. And I don't have a driving licence or a car either. So, with the S-Card [eligibility for a reduced monthly pass], I can continue living here.” (#11F82)

One interviewee (#9F61) is already entitled to buy discounted tickets through social benefits, but additionally reduces her public transport costs by travelling with her partner in his car instead:

“I contribute to the [car] costs, I pay now and then when he [her partner] fills up. And it is then, I think, almost always still cheaper for me than if I travel by public transport.” (#9F61)

Besides the strategies that reduce transport costs, the ‘neighbourhood-oriented older people with local interactions’ use saving strategies

in other areas of life as well. Thus, they save money by reducing their purchase of clothing (#7M66), only shopping in cheap shops (#6F86, #9F61) and buying groceries at discounters (#6F86, #7M66, #8F79, #9F61, #11F82), whereby promotional leaflets with offers help them decide which shops to visit (#8F79, #9F61, #11F82):

“You also get these leaflets delivered to your house. [...] Yes, I have to watch my money a bit with the income I have. And so of course I look where I can get something cheap.” (#9F61)

Moreover, they reduce body-related services, like hairdressing and chiropody appointments, by maximising time intervals so that they have to pay less often for such services (#8F79), they eat subsidised meals in social institutions like the church (#9F61, #13M87) or at acquaintances' houses when there is a lack of money (#7M66), accept food that relatives pay for (#6F86, #11F82) and, instead of going out, they meet friends, family members and acquaintances at home in order to save money (#6F86, #8F79):

“We'd have to walk there [to the café] and then we'd both have to pay something. We can also make coffee at home. That's cheaper.” (#8F79)

Despite similar coping strategies, people of this type differ from the first type by reporting that they cannot perform certain activities due to financial reasons. For example, one interviewee cannot afford to go to church on Sundays because she needs a private ambulance service that is too costly (#6F86). Other respondents cannot afford a painting course (#11F82) or entrance fees for activities (#9F61). One interviewee (#7M66) explains that he cannot attend his son's soccer game since the fuel costs are too high:

“There was a football match [my son's] somewhere [...]. And I said, no, I'm sorry, he [my son] will have to go with someone else. I don't have time. Because you don't like to say your wallet is empty, I can't fill up the car.” (#7M66)

4.3. Home-centred older people with few social interactions

The four respondents of the type 'home-centred older people with few social interactions' are at 62 to 65 years old rather young (#3M63, #5F62, #12F63, #14F65). However, most of the time, they stay at home alone with only few social interactions. They leave their home for grocery shopping (#3M63, #5F62, #12F63, #14F65), medical services (#3M63, #14F65) and other personal business like appointments with authorities (#3M63, #12F63). Compared to the other two types, their social network is focused on only a few people, such as immediate neighbours (#3M63, #5F62), their children who live nearby (#5F62, #12F63) or an acquaintance living in the vicinity (#14F65). Meeting people from their social network occurs very rarely. For example, one respondent meets relatives who live nearby only at funerals (#12F63); another one sees her child only once a year (#14F65):

“We also see each other, sometimes, like once in the summer. That's when he [my child] comes to get me for three to four weeks.” (#14F65)

Leisure activities were not mentioned by anyone. When asked directly about them, one interviewee described not her own, but her daughter's, as she could not report any activities herself (#12F63); another spoke of leisure activities that took place years ago (#5F62); and two said openly that they mostly stay at home: one because she cannot afford activities that involve costs (#14F65) and another because he has always done so (#3M63):

“How can I explain this to you? I don't know. I get, I get through my days somehow.” (#3M63)

Moreover, loneliness is indicated in this type, as one interviewee directly expresses the wish for a partnership (#3M63) and a widow reports that she pays for her cat despite her limited financial means in order to feel less alone:

“The cat also costs money [...] I don't want to give that up either. I'd rather do without. [...] You don't feel so alone when you have an animal in the house.” (#14F65)

In contrast to the first two types, it is noticeable that respondents of this type neither have an additional income nor receive financial support from their social network. Furthermore, they have some difficulties managing their own finances. For example, two people receive financial counselling from social workers: one to pay off debts (#12F63) and the other to cover housing and living costs (#3M63). Another respondent does not know that she is entitled to social benefits that she could apply for (#14F65). Furthermore, they are ashamed about their financial situation, which is evident from hiding their financial needs from family members and acquaintances (#5F62, #14F65):

“No one should know that I get money from the job centre. [...] They always label you somehow [...] as antisocial and so on. You always hear that. Although it's not like that at all.” (#5F62)

Walking is the main transport mode of this type. Only one respondent needs medical supplies for that (#14F65). Respondents have no driving licence (#3M63, #5F62, #12F63) or cannot drive due to health reasons (#14F65). So, no car is available. Only one interviewee of this type cycles to do his grocery shopping (#3M63). Of the others, one person never learned to ride a bicycle (#12F63), one cannot do so due to medication (#14F65) and another one's bicycle is broken (#5F62). Respondents use public transport only if necessary, especially for medical services in Hanover city centre:

“I'll buy a day ticket then. [...] I have to. Otherwise, I won't get my medication.” (#14F65)

Financing transport is a challenge for people of this type. Even without owning a car and hardly leaving their homes, financial constraints apply for the use of public transport and cycling. For example, one person was only able to finance his bicycle through a supplementary pension payment (#3M63) and another one could not repair her e-bike (#5F62):

“If I had bought a better [e-bike] at that time, then there would probably be a battery to buy now. But it was [...] not such an expensive one, and now there is no longer a battery I can buy [...]. I've got used to walking all the time now.” (#5F62)

If they use public transport, most of them buy tickets at reduced prices as a social benefit (#3M63, #5F62, #12F63). Only one woman has to pay the full ticket price because she did not apply for social assistance (#14F65). Another person reports that if she needs public transport, she buys a day pass and combines various activities in that day (#5F62).

Similar to the two previous types, the 'home-centred older people with few social interactions' use saving strategies when shopping. They visit flea markets (#5F62), buy clothes in cheap shops (#3M63, #5F62) and, especially when buying food, they pay attention to what is advertised in promotional leaflets and shop in discounters (#3M63, #5F62, #14F65). Two interviewees (#5F62, #12F63) sometimes get food delivered by family members for free. Nevertheless, this type seems to be

more restricted by their financial situation than the previous ones. For example, they only buy food that is needed (#3M63) or less than necessary (#12F63, #14F65):

“My fridge is empty. It always hums in the night. Oh well.” (#12F63)

Saving money for things beyond basic needs is not possible for them. Overall, limited financial resources are a great challenge and burden for all persons of this type:

“You see how much I get. That’s not living, that’s surviving.” (#14F65)

4.4. Low-income older people’s travel practices along materials, competences and meanings

The previously presented typology is based on our analysis of low-income older people’s travel practices along the element-based approach with materials, competences and meanings (see Section 3). Following this element-based analysis, we now present the effect of limited financial resources on travel practices across individual cases and types in more detail. Materials, competences and meanings are interwoven, but explained separately here for analytical reasons and especially to make the effects of limited financial resources on travel practices more visible in each element (Fig. 2).

4.4.1. Materials

From our qualitative data analysis, we deduce that an adequate infrastructure is fundamental to the travel practices of low-income older people. For our interviewees, this includes the accessibility of necessary destinations, such as medical services and grocery shops, with barrier-free transport infrastructure. However, since certain places are not nearby, inevitable transport costs occur when visiting medical specialists, public authorities, inexpensive clothing or grocery shops.

Physical limitations and associated additional costs for supportive or necessary equipment represent an additional financial burden for low-income older people, especially in the ‘neighbourhood-oriented older people with local interactions’ type. In our sample, among the 14

interviewees, eight people report physical limitations (#3M63, #6F86, #7M66, #8F79, #10M65, #11F82, #13M87, #14F65). To counteract these, they use walking aids, such as medication, wheelchairs, ambulance services, rollators or their car, so that they can still get around as best as they can. Although the German health insurance system covers most costs of walking aids, our respondents report financial barriers when it comes to necessary walking equipment. For example, one interviewee (#14F65) needs her medication for walking and has to pay for a public transport ticket in order to collect a prescription from the doctor and, another interviewee (#7M66) cannot afford the costs of an operation that would enable him to walk pain-free again.

Financing transport modes is challenging for the respondents - not only purchasing a car, but also financing running costs (e.g. insurance, fuel costs, and taxes). Only five respondents own a private car and none of them belong to the ‘home-centred older people with few social interactions’ type. Similarly, but on a different level, running costs also arise for bicycles, such as for repairs and spare parts. Despite reductions on public transport tickets (e.g. disabled pass, social benefits), our findings show that these costs are still a financial barrier to their use.

4.4.2. Competences

Our analysis highlights that basic abilities are required to carry out travel practices (i.e. knowing how to use walking aids, ride a bicycle, drive a car or use public transport). These skills can change with age, as age-related physical and mental limitations increase, in particular for walking and cycling. Financial challenges arise for the interviewees when these modes are no longer practicable and more costly public transport has to be used instead. Additionally, despite having the required mental abilities to repair bicycles (#3M63) and cars (#1M64) themselves, age-related physical constraints can be a hurdle, resulting in workshop costs that did not exist in the past. Moreover, financial aspects may influence the competences of car driving. In total, six interviewees (#3M63, #5F62, #6F86, #9F61, #11F82, #12F63) do not have a driving licence because an illness prevented them from obtaining a driving licence (#3M63), only the male partner’s driving licence was financed in the household (#6F86, #11F82), attending driving school and thus obtaining the driving licence was discontinued and never taken up again (#5F62, #12F63) and in one case, the financing was always lacking throughout their life (#9F61). Regarding the present, three people (#5F62, #9F61, #11F82) report that it is now too late to obtain it, but also that they could not financially afford it now.

From our data, we identify different coping strategies for financing travel practices and related practices of everyday life, such as leisure activities or grocery shopping, with limited financial resources. Underlying these strategies are competences, such as knowledge of costs for travel practices, skills to cover these and the ability to practice alternatives. The strategies result from costs linked to needed materials of the travel practices. Thus, all five car owners (#1M64, #2F66, #7M66, #10M65, #13M87) use their cars as rarely as possible in order to keep fuel costs low. Interviewees report that they buy bicycles on special offer (#1M64, #5F62) and use their savings for that (#3M63). One interviewee cycles as a strategy to reduce transport costs (#2F66). However, there are also financial barriers to cycling, forcing people to walk if they cannot finance spare parts or repairs. When using public transport, older people use their social benefits (#1M64, #3M63, #4M60, #5F62, #7M66, #9F61, #11F82, #12F63) or their disability passes (#8F79, #10M65, #13M87), if available, to buy reduced tickets. To do so, they need to know about their eligibility for these discounts, which two interviewees do not (#13M87, #14F65), and, thus, unknowingly purchase tickets that are more expensive than they should be. Furthermore, some respondents (#1M64, #4M60, #9F61) buy monthly tickets only in the

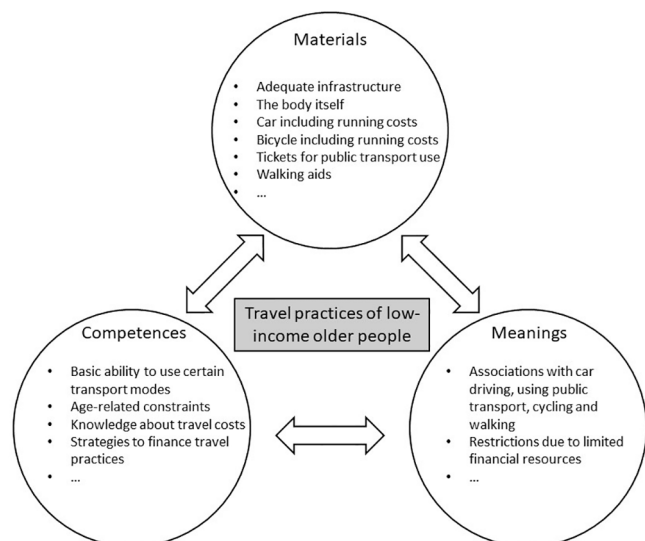


Fig. 2. The three elements of low-income older people’s travel practices and how they are shaped by limited financial resources (own figure based on Shove et al., 2012).

winter months, when cycling and walking become unpleasant for them.

Making, maintaining and relying on social contacts is a competence that can directly and indirectly relieve financial transport burdens and is thus also a coping strategy to manage with poor financial resources. Direct support from the social network includes, for example, when family members finance a car, lend public transport tickets or offer lifts to our interviewees. Indirect support means, for example, when food can be purchased at a lower price (e.g. at a food bank) or even provided free of charge (e.g. lunch table for older people or eating at an acquaintance's). These savings can then be spent on transport costs. Thus, the 'active older people with multifaceted social interactions' type use very self-sustained and independent strategies to cover the costs of their travel practices. For the 'neighbourhood-oriented older people with local interactions' type, the strategies are more dependent on social networks and for the 'home-centred older people with few social interactions' type, there is no financial support from their social network except for social institutions that provide advice.

Another strategy is to save money on groceries. Examples of this include purchasing products from leaflets and focusing on discounters (#2F66, #3M63, #5F62, #8F79, #9F61, #11F82, #14F65), visiting a food bank (#1M64, #11F82), reducing fresh fruits and vegetables (#4M60) or even buying too little food (#12F63, #14F65). The 'active older people with multifaceted social interactions' and 'neighbourhood-oriented older people with local interactions' also save money on leisure activities by attending free offers from social institutions, meeting friends at home instead of in restaurants and not taking part in activities with entrance or participation fees.

We conclude that certain competences are necessary to finance and, thus, carry out travel practices with limited financial resources, which are differentially available or – more cautiously formulated – utilised and result in three types of low-income older people by their travel practices.

4.4.3. Meanings

The meanings of transport modes used for travel practices differ to some extent among our interviewees. While driving a car on their own (#7M66) and travelling in ambulances (#6F86) are the only way for two interviewees to overcome their physical limitations and one person enjoys travelling with her partner (#9F61), the car does not play a central role in the travel practices of the remaining interviewees. Four out of five car-owning interviewees hardly use their vehicle and instead own it as a kind of security (#1M64, #2F66, #10M65, #13M87). Three interviewees (#1M64, #10M65, #13M87) report that if it breaks down, they do not want to buy a new one. Two of them state that this is because they associate environmental harm with driving (#1M64, #10M65). They have not abolished their private car so far, as they consider costs for taxes and insurance to be affordable for them at the moment (#1M64, #10M65, #13M87). The reasons why those who hardly use their cars drive them at all are that they like to be able to travel flexibly (#1M64, #13M87), especially when it rains (#1M64, #2F66); cycling is not possible for them; when distances are too far; or when they have to transport items (#1M64, #2F66, #10M65, #13M87). Except for those physically limited to the extent that they are dependent on vehicles (#6F86, #7M66) and one interviewee who is proud to get lifts from her partner (#9F61), all other interviewees report that the meanings of car driving are mainly linked to functional aspects. These functional aspects are reaching more distant destinations and transporting shopping or heavy, large objects. Those without their own car do not complain about missing it - one interviewee (#8F79) is even happy about not owning one anymore because she never liked driving - and manage with transport modes available to them. For almost all those interviewed, public

transport use is linked to getting to places outside their neighbourhood. Some respondents would not be able to manage their daily lives without using public transport, e.g. to go grocery shopping (#11F82) or to attend doctor's appointments in the city of Hanover (#14F65). Reduced ticket prices, especially for monthly and annual tickets, are of great importance and even associated with freedom (#4M60) and flexibility (#11F82) by respondents receiving social benefits and those with disabilities. However, despite these discounts, financing the tickets is challenging for all those interviewed. It is worth noting that for the 'neighbourhood-oriented older people with local interactions' and 'home-centred older people with few social interactions' types the meanings of public transport are mainly linked to reaching necessary destinations, such as grocery or clothing shops, authorities or doctors. But, for the 'active older people with multifaceted social interactions', public transport is also a way to visit friends and family members in more distant places. Cycling and walking are perceived as less expensive transport modes. Respondents describe cycling as an option to carry goods, a leisure activity and a way to stay healthy and active (#1M64, #2F66, #3M63, #4M60, #7M66, #13M87). Interviewees who can no longer cycle due to physical limitations or because their bicycles are broken miss cycling and are sad about not being able to do it anymore (#5F62, #6F86, #8F79, #9F61, #11F82). For those who are no longer able to cycle due to old age (#6F86, #8F79, #11F82), the emotional meaning of cycling is reflected in their decision to keep their bicycles as a kind of souvenir. If physically possible, respondents walk in their immediate surroundings. Therefore, walking is a cost-effective leisure activity and transport mode in itself, but also a part of using other transport modes. Our study findings highlight that anything that makes walking easier or possible for the physically challenged is of high importance (#6F86, #7M66, #8F79, #13M87, #14F65). Moreover, not being able to walk by oneself may lead to dependence on walking aids, which may involve cost and also entail negative feelings like sorrow and frustration (#6F86, #7M66, #14F65).

Furthermore, we find that the three types express different meanings about restrictions due to limited financial resources. Those 'active older people with multifaceted social interactions' do not problematise their poverty, but report all the many activities they are able to undertake despite their financial poverty. These activities, such as voluntary work, side jobs, hobbies and also holiday trips, shape their travel practices. It is different for the 'neighbourhood-oriented older people with local interactions' and 'home-centred older people with few social interactions' types, who report restrictions and are, to some extent, even ashamed and hide their financial poverty. Those 'neighbourhood-oriented older people with local interactions' mention fewer and local travel purposes and those 'home-centred older people with few social interactions' describe travel practices limited to the most necessary trips, such as grocery shopping. It is apparent from our findings that all those interviewed are restricted due to their limited financial resources, not only in terms of transport affordability but also in terms of financing leisure activities and grocery shopping. Thus, it is not only the costs of using transport that shape travel practices, but also the costs that would arise at destinations, i.e. the costs related to other practices. For example, regarding grocery shopping, the offers printed in leaflets determine which shops are visited and, regarding leisure activities, all respondents engage in low-cost activities not requiring entrance fees.

Our results of the element-based analysis conclude the following: (i) poor financial resources affect all transport modes at different levels, as certain materials have to be financed, which may restrict low-income older people in their travel practices; (ii) the meanings of travel practices are strongly linked to other practices, thus, if (also for financial reasons) no or a limited range of destinations outside the home are

mentioned, travel practices are restricted in their frequency and distance; and (iii) the necessary competences to be mobile and engage in social activities despite low financial means seem to be differentially available or – more cautiously formulated – utilised by low-income older people, which seems to lead to the abandonment of travel practices and related social activities, such as hobbies and leisure time. Furthermore, our results demonstrate that (iv) low-income travel practices differ depending on how the three elements interact with each other and (v) our findings prove that there is a very close link between financial poverty, mobility and social participation.

5. Discussion and conclusions

Low-income older people are vulnerable to transport-related social exclusion. Therefore, the aim of this study is to provide a deeper understanding of how financial poverty affects low-income older people's travel practices and, additionally, to investigate how they cope with limited financial resources. For this purpose, we conducted a qualitative study with 14 low-income older people in Ronnenberg (Hanover region, Germany).

Our results highlight that, despite all respondents having limited financial resources, they differ in their (i) transport mode options, (ii) social interactions and (iii) coping strategies with limited financial resources. Thereby, we identified three types of low-income older people by their travel practices: (i) active older people with multifaceted social interactions, (ii) neighbourhood-oriented older people with local interactions and (iii) home-centred older people with few social interactions. Furthermore, we used a practice-theoretical perspective of *materials*, *competences* and *meanings* to gain a deeper understanding of how limited financial resources affect low-income older people's travel practices.

Our results are in line with those on transport affordability (Lucas et al., 2016; Mattioli, 2017; Serebrisky et al., 2009), as *materials* needed for travel practices are linked to costs that are challenging for low-income older people. Our analysis proves that car use (Belton Chevallier et al., 2018; Gallo et al., 2022) as well as public transport use (Bondemark et al., 2020; Dabelko-Schoeny et al., 2021; Daubitz, 2016; Inguglia et al., 2020; Perrotta, 2017; Titheridge et al., 2014) are difficult for people on low incomes to finance. We cannot confirm the practice of fare evasion due to financial constraints (Schwerdtfeger, 2019), as this was not part of the travel practices of any of the interviewees. However, similar to a study on low-income households with children (Rozynek et al., 2022), our findings prove that even reduced public transport tickets are not easily affordable for people on low income. Although previous studies (Chudyk et al., 2017a; Chudyk et al., 2017b; Handy et al., 2014; Hilland et al., 2020; Sarrica et al., 2019) and ours show that walking and cycling are considered cost-effective transport modes, our analysis highlights that financial barriers can arise there as well. For example, older people may need walking aids due to health restrictions (infas et al., 2019b; Prescott et al., 2020; Siren & Hakamies-Blomqvist, 2009), but these come at a cost. For cycling, the financing of spare parts and repairs may be jeopardised by limited financial resources. Overall, we conclude that financial constraints may limit low-income older people's travel practices.

Certain *competences* are necessary for low-income older people's travel practices. Our study shows that when it comes to car driving, *competences* are lacking, as some low-income older people do not hold driving licences, partly for financial reasons. Our results also confirm that age and health-related physical limitations (Hill et al., 2020; infas et al., 2019b; Luiu et al., 2018b; Luiu & Tigh, 2021), i.e. limitations of

the carrier of the practices, make using certain transport modes impossible. Therefore, cycling is not a strategy for all low-income older people to keep transport costs low. Furthermore, knowledge about transport costs and strategies to cover these are necessary. We did not ask directly about heating costs, but the open-ended questions on transport affordability and on saving strategies did not lead to any respondent even mentioning them. Therefore, we cannot confirm the findings of Mattioli (2017) and Ortar (2018), but add to these studies that our interviewees save money on grocery shopping as shown in the study by Rozynek et al. (2022) on low-income households with children. We prove that a social network can help out with lifts or grocery deliveries (Belton Chevallier et al., 2018; Coutard et al., 2004; Davey, 2007; Gallo et al., 2022). Accordingly, having a social network is a strategy to address financial constraints and, thus, an important component of low-income older people's travel practices. We conclude that, a lack of these necessary *competences* may restrict low-income older people's travel practices.

Meanings of low-income older people's travel practices are closely related to other practices, e.g. grocery shopping. As studies have shown, the weight of groceries when walking can be burdensome. However, from our interviews, it appears that low-income older people counter this with more frequent shopping, the use of bicycles and acquaintances bringing groceries by car. In this context, we cannot confirm findings from studies from the U.S. and Canada (Franke et al., 2019; Gallo et al., 2022; Luiu et al., 2018a), which report taxis being used to transport groceries home, as none of our interviewees used one. Possibly, in the German context, walking to local stores, public transport use and lifts from acquaintances compensate for the lack of a private car. Furthermore, taxi prices in Germany are not considered affordable by those interviewed. Public transport is of central importance for medical and administrative appointments as well as for visiting acquaintances who live further away. Discounted monthly and annual tickets, in particular, are attributed the meanings of freedom and flexibility in terms of mobility and guarantee the ability to cope with everyday life. Our study shows, however, that public transport use is still difficult to finance, even with the possibility of purchasing reduced tickets. The low-income older people we interviewed attribute little relevance to the car, as only a few respondents own one and, if then, they use it rarely for financial reasons. We cannot confirm symbolic meanings related to the car, such as being a luxury item (e.g. Rozynek et al., 2022) or status symbol (e.g. Gatersleben, 2007; Steg, 2007) with our study, as our interviewees mainly attribute functional meanings to the car. These functional meanings include the possibility of reaching more distant places and transporting objects. But we identify symbolic meanings towards cycling, such as fun, a connection with nature, health promotion and freedom to get anywhere at low cost in a flexible way. Moreover, respondents who used to ride bicycles but can no longer do so in old age express sadness and, even though they no longer use their bikes, they do not want to part with them for emotional reasons. Comparable positive emotions about bicycles were expressed by respondents of the “non-motorised” type in the study on low-income households with children (Rozynek et al., 2022). One possible explanation as to why our interviewees attribute greater importance to walking, cycling and public transport than to car use is that one's local area becomes increasingly important in old age (Chudyk et al., 2017a; Giesel & Köhler, 2015; Kasper & Scheiner, 2002; Oswald & Konopik, 2015) and our interviewees mainly attribute the functional meaning of reaching places further away to driving. Additionally, we can confirm that a low income not only limits older people's transport mode options, but can also lead to unfulfilled activity wishes (Franke et al., 2019; Kasper & Scheiner, 2002). Thus, the interviewees report not being able to afford, for

example, a visit to a café, participation in a painting course or a holiday trip. We conclude that limited financial resources shape the *meanings* of low-income older people's travel practices and, as a result, there are restrictions not only in transport mode use, but also limitations on affordable social activities, purchases and destinations.

Comparing our results to a study on the travel practices of low-income households with children (Rozynek et al., 2022), we notice that both population groups save money on food and leisure. This leads to other places being visited in everyday life, which should be taken into account in future transport and urban planning, but also in transport modelling. Furthermore, both studies indicate that multimodality, no car ownership and non-motorised travel practices may be the result of financial constraints and should therefore be distinguished from voluntary changes in travel behaviour. We conclude that in the context of transport-related social exclusion, it makes a difference whether a person voluntarily does without a specific transport mode and can still guarantee their social participation or whether a person cannot be mobile due to financial poverty and thus has a lack of social activities.

Our study has some limitations that should be considered. Financial poverty is a sensitive topic and, therefore, the recruitment of suitable interview partners was challenging. However, through close cooperation with local institutions, the distribution of flyers at discounters and a food bank, the snowball technique and the use of incentives, we were able to recruit 14 interviewees. Please note that our study provides insights into the travel practices of low-income older people but complementary results are possible when interviewing, for example, more low-income older people living as couples or persons living in areas with different infrastructure. Another limitation is that although our interviews took place during the Covid-19 pandemic, we cannot derive related conclusions from the data, as this was not our topic in the interviews. Therefore, future studies might investigate the possible impact of Covid-19 on the travel practices of low-income older people. Moreover, as we could not extract more in-depth insights from our data regarding the individual respondents' mental resources, we would like to encourage future studies to use psychological theories and an individual focus to examine in more detail what role different mental resources (e.g. self-efficacy, resilience) play in the coping strategies identified in the three types. In particular, the question of why some people are more comfortable with their low income and more capable of establishing and maintaining social contacts as coping strategies would be interesting to investigate using a psychological perspective that also includes biographical questions. Finally, our typology of low-income older people by their travel practices enables a differentiated view of how poor financial resources can result in different travel practices and how varied are the constraints due to financial poverty. Therefore, this typology might be of assistance for future research as well as for policy and planning, for conceptualising and implementing measures aiming to reduce restrictions in transport for older people at risk of poverty, as this seems to be of particular value in an ageing society.

CRedit authorship contribution statement

Caroline Rozynek: Conceptualization, Methodology, Investigation, Writing – original draft, Writing – review & editing. **Martin Lanzendorf:** Writing – review & editing, Supervision, Project administration, Funding acquisition.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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