



Exploring public transport as an element of older persons' mobility: A Capability Approach perspective



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ARTICLE INFO

Article history:

Received 12 March 2015

Received in revised form 22 July 2015

Accepted 18 August 2015

Available online xxxx

Keywords:

Older persons

Mobility resources

Mobility opportunities

Public transport

Capability Approach

Young-old

ABSTRACT

This study employs Amartya Sen's Capability Approach as a guiding conceptual framework in the exploration of public transport as an element of mobility among the young-old living in Stockholm, Sweden. The aim is to shed light on the variation in mobility resources of those who perceive they can use public transport as their primary mode of transport and of those who perceive they cannot ('mobility capability element'), as well as that of those using public transport and of those not using it ('mobility functioning element'). Increasing residential density, being female and having a higher functional capacity were among the mobility resources which produced a positive increase in the likelihood of considering it possible to use, and the use of, public transport. The higher the ratio of cars to household member, the lower the likelihood of including public transport as a mobility capability element or as a mobility functioning element. Most of those who included public transport use as both a mobility capability element and a mobility functioning element were also users of the private car. There was also a tendency towards car use rather than towards no travel if the individual was not a user of public transport. Through the application of the Capability Approach, this paper facilitates further insight into the variation in mobility resources, corresponding mobility capability and mobility functioning elements of this group, with respect to public transport. It also opens up questions for the future employment of this conceptual framework within transport research.

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1. Introduction

1.1. Background

In recent decades there has been heightened awareness of the growing proportion of the population aged 65 and above, particularly in Europe (Lanzieri, 2011; Eurostat, 2014). This demographic change has meant that older persons' lives and lifestyles have come to the fore in the transport and mobility discourse (Schwanen and Páez, 2010). The life events which come with increasing chronological age are likely to spell consequences for a person's mobility. Commitments and priorities change, meaning that persons re-evaluate much of their everyday activities, which has direct implications for their mobility (Berg et al., 2014; Scheiner, 2014; Scheiner and Holz-Rau, 2013; Clark et al., 2014). Several have emphasised the importance of mobility for quality of life (e.g. Banister and Bowling, 2004; Wretstrand et al., 2009; Metz, 2000; Spinney et al., 2009); for well-being (e.g. Mollenkopf et al., 2005; Spinney et al., 2009; Nordbakke, 2013; Ziegler and Schwanen, 2011); and for social inclusion (e.g. Titheridge et al., 2009; Delbosc and

Currie, 2011; Lucas, 2004). Many have also focused on the role of social participation, social networks and independence of older and ageing persons (e.g. Baltes and Baltes, 1990; Mendes de Leon, 2005; Ziegler, 2012). Considering the strong association between mobility and these elements of life, it is important that older persons' desired and realised mobility is supported.

As public transport functions today, it may not suffice to meet the threshold for inclusion as a mobility option of value for many older persons. Driving is instead often considered a more favourable option (e.g. Schmöcker et al., 2008). However public transport as a system is adaptive and should be able to adjust to the challenge of an ageing population. In order to decipher how public transport might exist as an option in the mobility of older persons, a greater insight into the factors involved in both the consideration of public transport as a mobility option as well as the outcome of older persons using public transport is needed. This study focuses on the case of Stockholm's large metropolitan region, a highly developed urban region with a strong reputation for its advanced public transport network (Lundin and Gullberg, 2011).

1.2. Conceptual framework

This study applies the Capability Approach (Sen, 1995) to the analysis of the relationship between mobility resources and the perceived

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possibility to use public transport as a primary mode (Part I); the relationship between mobility resources and the actual use of public transport (Part II); and the travel behaviour differences between the resulting public transport user and non-user groups (Part III).

The Capability Approach differs from conventional Utilitarian-based approaches to choice models in three predominant ways. Firstly, the focus is shifted from the person's resources to their capabilities. Secondly, the outcome is conceptualised as 'functionings' (together constituting well-being) instead of utility (Sen, 1995:40). Lastly, the size of the scope for action is considered to contribute to the individual's well-being (Sen, 1985). The Capability Approach framework is becoming a point of interest in transport research (Beyazit, 2011; Nordbakke and Schwanen, 2014a) but has been employed only a handful of times within the field (e.g. Nordbakke, 2013; Smith et al., 2012; Wismadi et al., 2014). The essence of the approach is on equity. However, it also allows for an insight into inter-personal variation through the Eudaemonic principle of the individual shaping their own scope for action (cf. Nordbakke and Schwanen, 2014a).

1.3. Research questions

For this study, 'mobility' is defined as *actual embodied movements and the potential to realise such movements*, both of which are framed as derivatives of resources available to the individual (cf. Cresswell, 2010; Kaufmann, 2002; Kaufmann et al., 2004; Nordbakke and Schwanen, 2014a). Such embodied movements are treated as derived demand, that is, they are considered to be produced from a person's activities (Mokhtarian and Salomon, 2001). In other words, mobility is (with few exceptions) a means to an end, rather than an end in itself.

The Capability Approach is primarily concerned with the processes producing and re-producing a person's well-being. For this study, public transport use is conceptualised as a potential element of the individual's mobility. Mobility, in turn, is considered as an element of the individual's well-being (Nordbakke, 2013). As such, the potential to use, and the use of, public transport can become a contributing factor to an individual's well-being.¹ For this study, mobility resources are regarded as elements of a person's life which are considered to be *conducive to mobility*. They may also be described as resources which may be converted into the potential to move through the use of public transport (Part I) and into actual movement through the use of public transport (Part II). The third part of this study analyses the travel behaviour aspects which demarcate the differences between public transport user and non-user groups (Part III). The following research questions were posed:

- *Part I*: What are the relationships between selected mobility resources and the perception of the possibility to use public transport as a primary mode of transport among older persons?
- *Part II*: What are the relationships between selected mobility resources and the use of public transport by older persons?
- *Part III*: What are the key differences between the public transport user and non-user groups in terms of their travel behaviour?

Before presenting the Data and methods (Section 4), Results (Section 5) and Discussion and conclusions (Section 6), respectively, the key previous research is reviewed in Section 2, followed by the Conceptual framework in Section 3.

2. Previous research

In recent years, there has been an increased emphasis in transport research on the travel behaviour of older persons (Schwanen and

Páez, 2010; Ziegler and Schwanen, 2011; Hensher, 2007). However, considering the emphasis on car use (e.g. Rosenbloom, 2001; Hjorthol and Nordbakke, 2008), public transport concerns have been somewhat under-represented.

The increasing car reliance of older adults as an age group has been highlighted in several studies (e.g. Hjorthol et al., 2010; Rosenbloom, 2001; Newbold et al., 2005; Colia et al., 2003). This shift has been noted particularly for the remarkable increase of car use by older women (Hjorthol et al., 2010; Rosenbloom, 2004; Frändberg and Vilhelmson, 2011). Although some studies have emphasised the importance of having access to a car in later life (e.g. Nordbakke and Schwanen, 2014b; Hjorthol and Nordbakke, 2008; Davey, 2007), this may not always be an option (Rosenbloom, 2004), or a priority, particularly for those living in urban areas (Hjorthol, 2012). Furthermore, while driving might be valued as a mobility option by those who are *currently* in later life, it may be questioned whether this will be the case for cohorts who will follow.

From a life course perspective,² many within this cohort have experienced their formative years alongside the diffusion of the car as a technology (Newbold et al., 2005; Flink, 1980). As such, this cohort may have a stronger path dependence related to car use, owing to a stronger connection with it than other cohorts before it, and perhaps even stronger than that of subsequent cohorts (cf. Frändberg and Vilhelmson, 2011; Kuhnimhof et al., 2013; Delbosc and Currie, 2013). Such car reliance often comes hand-in-hand with living in less central, low-density, suburban areas (Boschmann and Brady, 2013). Many of those who are now in later life came of age at a time when living in such areas was the social norm. They settled in these areas and are still living there as they age (Rosenbloom, 2004). Several have considered that there is differential access to mobility opportunities depending on residential location. Delbosc and Currie (2011) found that those reporting most transport problems tended to live in less central areas. Páez et al. (2007) also found strong spatial effects when it came to trip-making propensity among older adults. Others argue that such transport problems exist in certain social groups, regardless of location (e.g. Hine and Grieco, 2003; Miller, 2005). Whereas Lucas (2004) calls for a more comprehensive perspective on transport problems and accessibility, highlighting that it is necessary to look at the crux between individuals, their desired and required activities and their mobility options. Jones and Lucas (2012) further this discussion, highlighting that *potential* mobility (facilitated through accessibility) should be the focus, rather than the actual mobility of the individual. Nonetheless, many suburbs are filled with age-homogeneous groups which could result in urban regions segregated by age (Davoudi et al., 2010), with older cohorts living in suburban areas, relying on the private car for transport, and perhaps not having many (or any) other mobility options available to them.

Conventional public transport is largely designed to suit the majority of potential users i.e. the working population. Relative to those in retirement, commuters have very consistent activities which are quite fixed in a spatio-temporal sense (Schwanen et al., 2001). This makes providing public transport for the latter a relatively predictable task. This could also mean that the mobility needs and wants of groups such as those in later life may not be catered for to the same extent when it comes to public transport provision (cf. Coughlin, 2009). This consideration is supported by Hjorthol's (2012) finding whereby older persons had greater problems travelling by public transport than by car. Furthermore, studies have found that older persons are less inclined to use public transport in comparison to other age groups (e.g. Schwanen et al., 2001; Giuliano et al., 2003). It has also been found that those who do use public transport are less satisfied, and that many of the health issues that come with age are associated with greater negative effects for walking and public transport use than for car use (Hjorthol, 2012).

¹ Sen (1985: 188–192) debates whether it should be considered that an individual does necessarily choose on the basis of maximising their well-being.

² A life course perspective is based on the premise of earlier life experiences and behaviour shaping those during later life (cf. Alwin, 2012; Kelley-Moore and Lin, 2011).

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