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A biographical approach to studying individual change and continuity in walking and cycling over the life course



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ABSTRACT

Most research studies seeking to understand walking and cycling behaviours have used cross-sectional data to explain inter-individual differences at a particular point in time. Investigations of individual walking and cycling over time are limited, despite the fact that insights on this could be valuable for informing policies to support life-long walking and cycling. The lack of existing longitudinal data, difficulties associated with its collection and scepticism towards retrospective methods as a means to reconstruct past behavioural developments have all contributed to this deficit in knowledge. This issue is heightened when the time frame extends to longer term periods, or the life course in its entirety. This paper proposes and details a retrospective qualitative methodology that was used to study individual change and stability in walking and cycling within a life course framework. Biographical interviews supported by a life history calendar were developed and conducted with two adult birth cohorts. Interpretive, visual biographies were produced from the interview materials. Analysis focused on identifying the occurrence, context and timing of behavioural change and stability over the life course. Typologies of behavioural development were generated to resolve common and distinct behavioural patterns over the life course. Whilst the validity of reconstructed biographies of walking and cycling cannot be proven, this is an approach which offers credible and confirmable insights on how these behaviours increase, diminish, persist, cease, are restored or adapted through the life course, and how behavioural trajectories of walking and cycling may be evolving through historical time.

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1. Introduction

Recent studies have demonstrated health benefits of physical activity that are accrued in the long term from regular activity (Middleton et al., 2010; Pluijms, et al., 2007; von Bonsdorff and Rantanen, 2011; Hirayama, et al., 2010). Public health researchers have endorsed policies to promote walking and cycling over formal exercise as a more effective approach to tackle physical inactivity (Ogilvie et al., 2007). The predominant approach to research has been to examine the relationship between an individual's prevailing propensity to walk and cycle and the contemporaneous physical, social and individual characteristics of the setting, and from this identify opportunities for promotion of walking and cycling. This conceptualises a static model of behaviour and its relationship to contextual factors. Research that reveals how individual behavioural outcomes have emerged through time may be more valuable for the development of interventions and policies that support life-long walking and cycling.

A much smaller body of research has concerned the dynamics (individual change and stability) of physical activity and travel behaviours. There is variation in the analytical focus, methodologies and temporal scope of this work. The complexity of measuring behaviours like walking and cycling and the challenge of following individuals over time are particular constraints in this area. Barnett et al. (2008) examined trajectories of individual behaviour constituted by prospective self-report of activity at three time points within a twenty-two year period (Barnett, et al., 2008). Latent class growth analysis identified distinct classes of trajectory and found that being female, older, having low income or lower educational achievement predicted a type of trajectory that was inactive or decreasing. Another seam of research has come about in both fields stimulated by the proposition that life events can induce behavioural change through disruption of the context for stable behaviours. Allender et al. (2008) reviewed prospective and retrospective studies of changes in physical activity levels occurring in the course of particular life events and transitions. Extending the temporal view to the whole life time

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qualitative retrospective methodologies have been used to explore sports participation (Tulle and Dorrer, 2012). Analysis here focused on changes in participation between stages of the life course, the meanings ascribed to physical activity in a retrospective view and how participation was shaped by the experience of ageing.

Travel behaviour researchers have looked at the association between certain life events and changes in travel behaviour revealed through prospective panel data (Dargay and Hanly, 2007) and retrospective self-completion questionnaires (Beige and Axhausen, 2008). The dynamics of walking and cycling are only revealed as far as their use as commute mode and the temporal span of panel surveys are periods far shorter than a life time. Further, whilst this reveals the propensity for the change to occur in the course of a life event but leaves opaque the process of change itself. Lanzendorf (2010) used retrospective qualitative reports of behaviour over a fifteen year period to understand the impact of entering parenthood on travel behaviour. This meant that the identification of a behavioural change, as well as the link between changes in life circumstances and the change in behaviour, originated with the individual.

Two studies have used qualitative retrospective data to look at trajectories of cycling behaviour. One found that behaviour changes in a three-year period were usually ascribed to life events (Chatterjee et al., 2013). Bonham and Wilson (2011) took a whole life view collecting complete histories of cycling from Australian women who had made returns to cycling. Social relationships were often implicated in returns made in the twenties, while health and fitness concerns were important for those in their thirties. Finally, Pooley et al. (2005)'s study of mobility histories provided a useful exemplar of making links between biographical data on individual mobility and social and structural changes.

In summary, walking and cycling has been only a minor concern in studies concerned with the dynamics of physical activity and travel behaviour. Second, there is very little study directed at behavioural development over longer term time frames; the greater body of dynamic studies look at behaviour change in the course of a particular event or transition, or in time periods of years to decades. Biographical methods offer a means to extend the temporal view on behaviour to the life course. Most informative for this study is Bonham and Wilson (2011)'s study of women's cycling histories. However, their research covered only women who had made returns to cycling. It therefore does not offer insight on other outcomes, men's experiences or development of walking.

Together this leaves much scope to develop understanding of how walking and cycling develops over time, specifically how they may increase, diminish, persist, cease, be restored or adapt and the longer term processes through which earlier behaviours evolve into later behavioural outcomes. For instance, socialisation (Haustein et al., 2009) and habituation (Bamberg et al., 2003) in the transport field, and genetic predisposition and habit formation in physical activity research (Telama, 2009) have been proposed as processes which shape behaviour over the longer term. Ambitiously then, it was the aim of this research to understand changes and continuities in individuals' walking and cycling, as both transport and physical activity, at the temporal scale of the life course.

A life course perspective is a common theoretical orientation adopted in research into longer term individual development along various dimensions or domains of human lives and functioning. This is a set of concepts and principles that offer a longitudinal framework. It considers an individual "dynamically as the consequence of past experience and future expectation as well as the integration of individual motivation with external constraint" (Giele and Elder, 1998). The life course is conceptualised as a set of interwoven life-long developmental trajectories, embedded within an evolving historical context (Giele and Elder, 1998). Trajectories are viewed as non-linear patterns of forward movement that chart the course of the individual's progression in a particular biological, psychological, behavioural or social dimension, being shaped by discrete changes and more gradual transitions and continuity (Li et al., 2009). Development is life-long and linked to and shaped by other lives in familial and social networks. The life course perspective has informed studies of spatial mobility (Kulu, 2008) and food choice (Devine et al., 1998; Delaney and McCarthy, 2009), but has not been explicitly adopted in studies of physical activity and travel behaviour. Adopting this conceptual framework then, an individual's walking and cycling behaviour through life was conceptualised as a behavioural trajectory.

The absence of existing sources of data that could be mined for a whole life view of walking and cycling behaviour directed the study towards a retrospective method. Rather than tasking participants with giving a continuous report of levels of walking and cycling they were asked to describe and explain their behavioural change and continuity in the form of a life story. The use of narrative data oriented the study towards individual accounts which organised memories, perceptions and thoughts about walking and cycling behaviour into explanatory accounts which made explicit the connections between past behaviour and experiences and their current patterns of walking and cycling. This grounded insights on behavioural development in the experiences and perspectives of the individual, rather than ascribing connections between behaviour change and life events on the basis of them being contemporaneous.

The strategy was to reveal using multiple individual accounts the occurrence and timing of developments in walking and cycling trajectories through the life course. Informed by the life course perspective a concern was also to explore whether walking and cycling trajectories were changing through historical time. The premise was that marked economic, technological, social and cultural changes in the UK in the second half of the twentieth century meant that birth cohorts separated by a few decades had encountered quite different physical, cultural, and social contexts for walking and cycling. One aim was to identify whether this was reflected in their behavioural trajectories. A further dimension was to examine whether within family groups trajectories were shaped by life events and transitions in linked life courses. It was hypothesised that events in the life of one generation could impact on the walking or cycling of a parent or child through an altering of the context for behaviour.

This paper introduces and explains the narrative biographical approach developed to study individual's change and continuities in walking and cycling over the life course, an approach we believe has potential for wider usage in behavioural studies. The findings are published elsewhere (Jones, 2013). The following sections explain the method, data processing and analysis. The paper concludes with some critical reflection on the strengths and limitations of the approach.

2. Methodology

2.1. Life history interviews

The biographical accounts were elicited in face to face interviews conducted over two occasions by the first author. The first interview opened with discussion of the participant's current walking and cycling activity before they were asked to tell the interviewer about their walking and cycling over their life, describing the changes and stability in their behaviour as they saw them in relation to events and transitions in their life. Starting school, moving house, leaving home, getting married and having

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