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A cross sectional survey of attitudes, behaviours, barriers and motivators to cycling in University students

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ABSTRACT

High rates of active travel are essential aspects of healthy communities. Increasing cycling participation has the potential to address a range of long-term health and societal issues, and positively contribute to the health and sustainability agenda. Universities have been proposed as appropriate settings for a healthy place approach however, there is a paucity of evidence on student cycling. Therefore the aim of this paper is to explore the motivators and barriers to cycling amongst University students.

An online cross sectional survey of young adults (18–25 years) studying at an urban United Kingdom university was undertaken. Using convenience sampling participants were surveyed on levels of cycling (e.g. daily, weekly) alongside perceptions, barriers and motivators to cycling activity.

194 responses were received of which 55% were male, 54% owned a bicycle and 14% were regular cyclists. Cycling motivators were enjoyment and improving fitness; especially amongst regular cyclists. However, weather and safety concerns were the main barriers. The majority (85%) felt more should be done to encourage cycling, with 70% stating cycling was easier 'elsewhere'. Respondents felt cycling had an important environmental element (67%), although less than 8% cited congestion and pollution reduction as a reason for cycling and 64% believed there were more barriers to cycling than driving.

This study suggests that levels of cycling within a university setting may be higher than the general population and the appreciation of the merits of cycling are well recognised. In addition motivators and barriers are similar to the wider population. However more research is required, especially with occasional and non-cyclists, to understand how best to address the 'value-action' gap highlighted between cycling attitudes and behaviour amongst university students.

1. Introduction

Increasing the number of people cycling provides a means of both directly and indirectly addressing the public health impacts of an increasingly sedentary lifestyle. The benefits of cycling include increased levels of physical activity (Department of Transport, 2004), reduced congestion and pollution (Pooley et al. 2011), increased social capital and sense of community (Cavill and Buckland, 2012) along with long term financial benefits (Cavill and Davis, 2007). Increased levels of physical activity is recognised as crucial to tackling the rise in obesity in the UK (Department of Transport, 2010) which would impact on the National Health Service (NHS)

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budget spent on treating obesity related conditions (Allendar and Rayner, 2007).

The UK has some of the lowest levels of cycling in Europe with just 2% of all journeys made by bicycle (Department of Transport, 2012). This is despite numerous investments and policies, noticeably in the last 20 years, to change this trend (Butcher, 2012). Nationally 10% of adults cycle weekly although this figure has local variance ranging from 4% (Pendle) to 52% (Cambridge) (Department of Transport, 2012). Only the West Midlands has fewer people cycling either weekly or monthly than the North West and cycling rates in Merseyside and Liverpool are lower than the regional average. In the UK, efforts to improve cycling rates have manifested themselves through a preference for addressing singular determinants, such as building cycle lanes and to date this has delivered limited success (Jones, 2001).

Elsewhere in Europe ecological approaches have, over time, led to Northern Europe being regarded as the world's most cycle friendly region (Horton et al., 2007) with several countries recording high prevalence including the Netherlands where over a quarter of all journeys are made by bicycle (Pucher and Buehler, 2008). Ecological approaches to health behaviour favour the development of comprehensive interventions based on explicit recognition and consideration of multifaceted and multi-level factors (Sallis et al., 2008). Such approaches have provided a means for considering the complete environment within which behaviours are adopted rather than focusing on individual factors (Cochrane and Davey, 2008). In order to implement ecological approaches to changing behaviour it is important to understand the many factors which affect that behaviour. Research in the UK population shows that safety concerns and traffic are barriers to cycling (Transport for London, 2012) whilst health and enjoyment have been cited as motivators (Heesch et al., 2012) but it is not clear if this is representative of a university population.

Global efforts to establish active travel in the student population date back over 20 years. From the Talloires Declaration in 1990 through to the 2002 Graz Declaration universities around the world have acknowledged their unique position to act in a leadership role in terms of sustainable travel development (Balas, 2003) and some authors suggest it is their fundamental obligation to do so (Orr, 1992). However, there is a paucity of research into levels of cycling amongst young adults (Rosen, 2002). The evidence base is especially narrow relating to young adults attending university with limited international (Rissel et al., 2013) and UK (Tolley, 1996) studies identified. Tolley (1996) suggested that car use was the largest detrimental impact from universities on the environment and stressed the need for a change in mind set to reap individual and societal short and long term benefits of increasing cycling within universities.

This paper seeks to explore levels of cycling; barriers and motivators amongst young adults (18–25) within a UK university population. This will allow informed consideration of key determinants of cycling behaviour to be applied to ecological approaches aimed at increasing cycling within this population.

2. Methodology

2.1. Study design

A postpositivist approach was adopted to this cross sectional online self-completed survey. This approach was chosen to identify and assess variables affecting outcomes and consolidate earlier work of others on accepted truths regarding cycling uptake within a university setting. A quantitative design allowed for information collection from a large number and enabled comparison between groups, behaviours and outcomes. In addition some qualitative analysis was possible as a result of two free text boxes within the questionnaire.

2.2. Population and sample

Liverpool has a population of 466,415 of which 13.2% are aged 19–24; higher than the national average of 8.1% (Liverpool City Council, 2011). The proportion of the population classified as White British is 86.2% which is higher than the national average of 81.4% (Liverpool City Council, 2011). It is estimated that 7% of the Liverpool population cycle weekly with 3% cycling 3 or more times a week (Department of Transport, 2013).

The population of interest were university students aged 18–25 studying at Liverpool John Moores University (LJMU) during the academic period 2012-13. The total population of students within LJMU aged 18–25 was 15383 (information provided by LJMU administrative office in response to researcher email; 11th October 2016).

2.3. Recruitment

Convenience sampling was employed to determine which schools and courses to target and the relevant link was provided to students via the student intranet page. Within those schools identified the relevant staff members emailed students with a standard text which included a web link providing access to the online questionnaire. The researcher approached key gatekeepers such as lecturers and the university sustainable transport officer to gain consent for this approach and delivered five presentations to large classes, one within each of the identified schools in an effort to avoid ‘cold calling’ on students via email in line with evidence around increasing response rates (Dillman, 2007). Students were incentivised to participate by the option to be entered into a prize draw to receive £20 worth of supermarket vouchers upon completion of the survey.