# It's just for old men and children: exploring self-image barriers to cycling

## Introduction:

The UK Government seeks to 'kickstart a cycling revolution' and bring down barriers for cycling in the future (Department for Transport [DfT], 2014) and as committed £12bn to achieve this (DfT, 2017). It has committed to doubling the level of cycling in England by 2025 (Dft, 2016a) with the stated objective of collectively addressing sustainability, obesity, the nation's health, emissions targets, road safety and congestion (DfT, 2010). Although a range of interventions could be used to target individual items on this list, cycling is identified as one of the few activities capable of addressing them all. It has consequently been described as the 'perfect tool' for improving both transport sector efficiency and its broader effect on society (Blondiau et al, 2016).

According to Patton (2015) cycling rates in some spheres are now rising and this bodes well for the government's aims. However, although there is a specific increase in 'Middle-Aged Men In Lycra' (MAMILs), and whilst a modest growth in utility cycling has been noted in Greater London and a few other major cities, the more *general* situation is less encouraging. More than half of all local authorities actually experienced a decline in cycling numbers to 2011 (Census, 2011) and the UK population is less likely to cycle than most others in Europe. Further, it has been reported that although UK cycle ownership is relatively high, 69% of the UK population claim never to put their bikes to substantive use (European Commission, 2013). The reasons for this are many and varied, and research already points to a range of situational barriers including road infrastructure, traffic volumes and cost (Pooley, 2011). There are though, other factors of a less tangible nature, and it has been suggested that the effect of non-situational issues (including gender, socio-economic status and culture) could have a greater impact (Willis, Manaugh and El-Geneidy, 2015).

Clearly, one of the keys to establishing a viable and ongoing UK cycling community is to energise the young. Habits adopted at an early age are likely to be carried through into adulthood (Hopkins and Mandic, 2016) and understanding how such habits might be initiated, or alternatively, obstructed is vital. The focus of our current interest is on those in the 18-25 age group, and we choose this for two reasons. Firstly, amongst studies of young people and cycling they are relatively under-represented (Hopkins and Stephenson, 2014), and secondly, this group is critical in transitional terms given their siting at the cusp of youth and full maturity (Arnett, 2007). These are an archetypal generation 'Y' group who have been referred to, generically, as 'emerging adults' (EAs – Arnett, 2007), and we suggest identity as a particularly pertinent non-situational issue likely to impact their take-up of cycling. Perceptions that are held of people, institutions, products and activities – and especially of peers and reference groups - are important to this group (Williams and Page, 2011), and unless cycling can be seen as both attractive and aspirational, efforts to increase participation is likely to be hampered. Identity formation is one of the major assignments of growth into adulthood and is a process that involves both continuous self-evaluation and social comparison (Neff and McGehee, 2010). Consequently, this group is of especial interest both from a cultural and practical perspective,

## Research aims and contribution

The primary objective of this study therefore is to explore non-situational barriers to cycling, specifically those relating to identity, as these pertain to the 18 to 25 age group; consequently to determine to what extent *being* an EA impacts on the likelihood of *becoming* a cyclist. This is important because the young, and EAs especially, are key to the development of a sustainable, ongoing cycling community. And we focus primarily on functional, or utility, cycling (work and transport oriented) as this represents the day-to-day reality of any future 'cycling revolution'. We note recent literature that draws on Shove's (2012) work that posits cycling as 'a practice' (e.g. Aldred and Jungnickel, 2014; Latham and Wood, 2015; Spotswood, *et al*,

2015) and which suggests this is constituted from competences, meanings and materials. Our intended contribution, therefore, is to help both academics and policy-makers understand how cycling practice, for our chosen constituency, might be represented through the multiple identities of self, young adult, 'cyclist' and the paraphernalia of cycling. In so doing we hope to advance the potential for policy makers to design interventions, or initiatives, that can encourage this group to cycle.

**Policy/contextual background**

Although cycling rates are rising (Paton, 2015) car travel still accounts for 78% of total journeys with only 1% being attributed to cycling (DfT, 2016b), despite 43% of people claiming to own a bicycle (DfT, 2016c) and 73% stating it would be better if people cycled more (Sustrans, 2016b). According to the European Commission (2013) 43% of Dutch, 30% of Danes and 19% of Germans cycle daily, but only 4% of Britons do the same. The UK is in the bottom 5 of 29 European countries for cycling levels and 69% of the population claim to never cycle (European Commission, 2013).

***Cycling and Health:*** Inactivity accounts for 37,000 premature deaths annually in England and the impact of obesity could cost the NHS £10bn p.a. by 2050 (Cycling UK, 2016), whilst the associated cost to the NHS is estimated to be £1.06bn annually (Urban Transport Group, 2016). Physical inactivity is one of four modifiable behavioural risk factors that between them account for 46% of the NHS budget (Scarborough et al, 2011). Oja et al (2011) conclude from their review of 16 cycling related studies that "the existing evidence reinforces the current efforts to promote cycling as an important contributor for better public health" (p496). The Royal College of GPs has called for physical activity to be a clinical priority for the next three year (2016) and the UK Faculty of Public Health (2016) has called for a shift away from car journeys in order to mitigate the health harms of motor transport.

***Cycling, Congestion and Air Pollution:*** There are benefits to society from avoiding journeys by motor vehicle in terms of reduced congestion, pollution and noise (Smith et al, 2016). Reducing journeys by car and replacing them with cycling and walking can make a significant contribution to the improvement of city environments. Populations express concerns about the health impacts of air pollution with eight out of ten Europeans believing air pollution is a problem in their cities (European Commission, 2013). Moreover, 85% of Britons see congestion in cities as an issue (European Commission, 2013). Furthermore, air pollution is responsible for 40,000 premature deaths annually in the UK (Sustrans, 2016).

***The Economic Benefits of Cycling:*** Cycling delivers hard economic value (Blondiau et al, 2016). The UK Government has made a strong economic case for increased cycling, citing a positive benefit-to-cost ratio of around 5:1 (Department for Transport, 2015) with other estimates suggesting a benefit-to-cost ratio of 13:1 (Cycling UK, 2016a) and car journeys costing society six times more than cycling (Gössling and Choi, 2015). CTC (2015) estimated that cycling contributes £3bn to the UK economy and the Urban Transport Group (2016) reports that the value of cycling and walking in the UK is £14bn and that a 40% uplift in retail sales has been associated with improved city centre environments.

***Who Cycles?:*** The available data offers a less than clear position. People with managerial and professional jobs are more likely to cycle than those in intermediate jobs (17% and 10% respectively) according to the DfT, (2016b). The DfT (2016b) suggests the propensity to cycle increases as household income increases but people in the most senior jobs are those least likely to commute by bicycle according to the Office of National Statistics (ONS, 2011). According to the ONS (2011) 3.9% of male workers and 1.6% of women workers were regular cycle commuters. What appears to be clear is that younger adults cycle less than older adults. In England and Wales workers aged 30 to 34 are the most likely to cycle-commute (3.5%) but levels remain above 2% up to age 60. In England and Wales 2.5% of 20 to 24 year olds

commute by cycle whereas 3.6% of 30 to 34 year olds do (Office of National Statistics, 2011). According to Keep (2013) the difference is greater, with 40 to 49year olds cycling on average 150 miles per year and 17 to 20 year olds cycling just 85 miles. So a typical UK cycle commuter could be described as a 34-year-old male car owner with a middle-management/professional job paying above average wages living in a major city. This characterisation points to the need to better understand why it is that EAs are not cycling as frequently as others and suggests motivating this group is key to achieving Government ambitions.

**Theoretical Perspective**

Much is written on culture in the context of cycling, but this tends to focus on the phenomenon of cycling *as* a culture, rather than on the impact of culture on the phenomenon of cycling. What has come to be called 'cycling culture' might be considered a state of mind (e.g. Füssl and Haupt, 2016; Hopkins and Stephenson, 2014; Kuipers, 2012) and in this respect recalls notions of cycling citizenship (Aldred, 2010) and of cycling as a social movement (Aldred, 2013). Both require commitment to being categorised as 'a cyclist' - someone who identifies with other like-minded individuals and who habitually engages in the performance of cycling. Those who evidence this state of mind might also be found to exist in cycling sub-cultures, in the sense that those self-identifying as cyclists in, say, Bristol, might differ in certain ways to those self-identifying as cyclists in Cambridge (Aldred and Jungnickel, 2014). Identity and culture, clearly, are closely associated and Cox (2015), for example, suggests 'cyclists' are a minority group (or culture) that embraces collective identity because this offers a sense of belonging and because it represents solidarity in the face of others who are hostile to cyclists.

This hostility, or at least indifference to what, in a UK context, is seen as a socially marginal activity, is represented in a further body of literature that pertains to the perceptions of cyclists by either non-cyclists and/or ORUs (other road users). Leonard et al (2012), for example, suggest cyclists are perceived as 'not normal', primarily because they need to be adventurous, daring - aggressive even - and above all dedicated, in order to face the dangers of the road. This dedication might be seen as characteristic of the 'hardened' cyclist (Horton and Jones, 2015), those who ride 'fast and assertively' and wear the 'right' clothes. But not all cyclists, of course, fit this description, and not all accounts of cycling behaviour depict advocates as two-wheeled desperados. In fact, perceptions are wildly diverse, and Daley and Rissel (2011) suggest cyclists might be perceived either as negatively dangerous and anti-social or, alternatively, as positively committed to health and an environmentally-friendly lifestyle. Gatersleben and Haddad (2010) go further, arguing there are four readily observed categories of cyclist. These are responsible cyclists (those who ride safely and carefully), lifestyle cyclists (those who are keen and spend large amounts of money on their interest), commuters (professionals who travel to work regularly on bikes) and day-to-day cyclists (normal, non-sporting types, who cycle for fun and convenience). Horton and Jones (2015), meanwhile, contrast 'hardened' cyclists to 'forced' cyclists, characterising those who cycle out of necessity as socially and aesthetically inferior.

The reports above merely touch upon work concerning cycling and identity as it relates both to cyclists and to observers of cycling. But they do demonstrate that a disposition to cycle is just as likely to depend on issues of cultural and social capital (Bourdieu, 1986) as on those of infrastructure and accessibility often featured in narratives on incentives and barriers to cycling (e.g. Hull and O'Holleran, 2014.; Thibaut, *et al*, 2016). In fact, Willis et al (2015) suggest the effect of non-environmental, or non-situational, factors is greater than those of a structural nature. Perceptions, attitudes and habits will vary across and within social/cultural categories, and work also exists that examines the effect that gender, sex, ethnicity, race and class have on a prevalence to cycle (e.g. Law and Karnilowicz, 2015; Steinbach, *et al*, 2011). Age is also considered an issue of interest, though this polarises around certain groupings, with

studies concerning those of school-age (e.g. Orsini and O'Brien, 2006; Benson and Scriven, 2012) and those in later life (e.g. Ryan, *et al*, 2016; Winters, *et al*, 2015) dominating.

Psychologists now accept (Stets and Burke, 2000) that the identity domain comprises two related, but separate, concepts - personal identity and social identity. Also, that 'identity work' (Watson, 2008) is undertaken at the interface between the two. Social identity needs a social context, and 'being at one' with a certain group, or being similar to that defined group, is key. These people represent the 'in' group, whilst all others are the 'out' group (Stets and Burke, 2000), and paradoxically, social identity theorists suggest that similarity can be a source of differentiation (Jetten, *et al*, 2001). This differentiation though, needs to be perceived as beneficial; that is, the "…normative fit of a social … category should generally be higher to the extent that it allows for positive self-definition." (Haslam, *et al*, 2000, p. 325). Feeling part of a positively perceived social category (or reference group) helps in the affirmation of personal identity, but if a chosen category (e.g. cycling fraternity) is perceived to be at odds with positive self-definition then this will be viewed as the 'out' rather than 'in' group.

**Research Design and Methods**

This paper reports on the first of three research phases with funding currently being sought for phase 2. The three phase research programme – extensive, intensive, and extensive – is designed to provide data for obtaining both generalised and differentiated insights into what cycling means, for the group concerned. The programme is:

*Phase 1* - Exploratory meetings and focus groups: results are detailed below.

*Phase 2* - Quantitative research using a large sample of up to 5000 respondents.

*Phase 3* – Research incorporating projective techniques with a respondent sample of 100.

***Phase 1 Research Methods:*** Four focus groups of ten people aged between 18 and 25 were held at Nottingham Business School in early 2016 to explore and identify the main themes relating to young adults' perceptions of cycling and their perception of its non-situational barriers. Focus groups one and two were made up of undergraduate students studying BA (Hons) Marketing, focus group two comprised students studying a mix of business based masters courses and focus group three involved people aged 18 to 25 in employment in the business school. The discussions were digitally recorded. Two researchers were present for each focus group with one acting as moderator and the other taking notes in case any clarification was required during transcript analysis. The research team initially reviewed and discussed all transcripts to identify key themes and then uploaded these into NVivo3 Professional to code, organise and analyse the verbatim comments to confirm and populate key themes. Once detailed coding was complete, processed data was re-reviewed for ratification.

**Results and Discussion**

Our initial findings, detailed against each of the major themes identified subsequently refined via NVivo are detailed immediately below as *Analysis 1*. This, in turn, is further analysed (*Analysis 2*) to reveal three over-arching concluding themes.

***Analysis 1: Theme1 - What is a cyclist?:*** A cyclist was seen as a well-off skinny male, thirty plus and in business: *"A man in cycling gear and a helmet cycling on the side of the road is what I think of when I think of cycling, it's like 45, like my dad".* Some participants viewed cyclists as 'snobbish', elitist and financially well-off. 'The cyclist' was frequently seen as a proxy for 'club cyclist' whose equipment and clothing were viewed as intimidating. Cycling was seen as 'uncool', 'impractical' and of little perceived value - apart from in London where it was perceived as sensible and more normal. For one participant, promoting cycling to younger people would be a pointless task: *"It can't work. It's more for old people".*

***Theme 2 - Respondents did not identify as cyclists:*** The majority of participants could not see themselves ever being classified as 'a cyclist'*: "I just don't see it. I have no interest"*. Even the small number of students who did cycle regularly did not identify as a cyclist: *"I can ride*

*a bike and if I wanted to I could cycle, that's my own issue but I wouldn't say I'm a cyclist cause I associate that with someone who cycles all the time"*. However, neither did the participants identify as drivers, or walkers or bus/tram travellers. None of our respondents considered transport sufficiently importance to make any contribution to personal definition.

***Theme 3 - Cycling is not the norm:*** In general the participants perceived cycling as 'not normal': *"…the majority of people drive"; "None of my friends or anything like that are really into it"*. Cycling was consequently dismissed as atypical, one respondent advising, *"I cannot imagine myself being woken in the morning, getting ready for work, and then humping on a bike"*. However, one respondent suggested that cycling may become interesting if more young people participated and a change of image resulted: *"If it becomes a revolution…but it's not cool so people wouldn't do it."* There was, though, some acknowledgement that cycling was a worthwhile activity for health (*"If I have got to sit in traffic… I would rather be active");* for finance (*"[public] transport is expensive so I use the bike to go from A to B");* for convenience (*"I also biked to work because it was quick and easy"*), and for ecological reasons (*"Its environmentally friendly").*

***Theme 4 - Cycling is for older people or children:*** participants considered cycling to be something *"… for middle-age people." and "… for older people",* or for younger children: *"I used to cycle when I was very young".* There was a perception that from aged 30 onwards people tended to feel they needed to concentrate more on their health and fitness and take up cycling as a time-efficient way of becoming active: *"about 30s onwards, it tends to be when I think it hits them, I really need to get fit now"*. On the other hand, children tend to cycle as a form of play: *"I think when we were all younger, we'd probably have gone on bike rides at weekends"; "so when we were younger, we used to cycle on the cul-de-sac, and we meet on our bikes every day and we go buy crayons",* or as part of holiday and leisure activities: *"it reminds me of Summer because I always go to the beach by bike. For me it is pretty happy"*.

***Theme 5 - Cycling is a lifestyle hobby for men in lycra****:* Participants tended not to consider cycling as a means of everyday transport: *"I see it more of a hobby, like a lifestyle kind of thing, not really like to get places but more like you're a cyclist and that's sort of what you do as a lifestyle and a life choice"*. Cycling appeals to men: "*It's massively male dominated",* who like to wear all the associated clothing and equipment: *"Probably a man in very tight clothing"*; *"a man in cycling gear and a helmet".*

***Analysis 2:*** Three very clear issues arose from our exploratory investigations and point to areas for further investigation in phase 2. The first relates to respondent's *perceptions of cyclists'/cycling's identity*. Throughout our study it was evident that the term 'cyclist' was primarily taken to mean someone who cycled for pleasure/as a hobby, and who took this sufficiently seriously to spend substantive amounts of money on both equipment and clothing. It seemed, therefore, that there was a clearly perceived differential between the terms 'cycling' and 'cyclist'. There was evidence suggesting that 'cycling' might be positive, given stated associations with the environment, health, convenience, finance and nostalgically as happiness/fun, but that 'cyclist', by contrast, was negative. 'Cyclist' was not considered to be 'someone who cycles', but rather to be someone who cycles with commitment and is male; perhaps the 'hardened' cyclist referred to by Horton and Jones (2015). Either this, or a child, again, competent but associated with the trappings of infancy. Whichever, by association, it may be that cycling for this group is considered, on balance, less attractive than it might otherwise be purely due to images held of those who practice it. This appears to accord with the apparently paradoxical findings of Daley and Rissell (2011) who suggested cycling could be seen as both positive and negative. But certainly for our group, this distinction was focused more on the difference between practice and practitioners rather than on any differences associated with cycling *per se*.

The second, related to the first, was that *EAs were somehow demographically 'lost' in the middle*. That is, that although – on the one hand - reminiscences of childhood cycling brought back pleasant memories, these were not recollections that could be positively associated with ascending maturity. Rather, it might be said that to cycle could indicate regression back to childhood (the stereotype that 'cycling is for children' – (Clayton and Musselwhite, 2013) and an impediment to the application of identity work necessary to achieve effective transition to the next stage of life. Similarly, the 'hardened' cyclist was perceived as someone over the age of 30 and male – likely an approximation for someone settled in a career; with children, a mortgage and other burdensome lifestyle constraints. Unsurprisingly, neither of these two identities - the child, nor the clubman – represent a point of aspiration (a positively perceived 'in' group) (Stets and Burke, 2000) for EAs, and there was no evidence of there being any other positive reference group associated with cycling that the group might aspire to and that might help resolve the 'status ambiguity' (Coleman, 1993) typical in those of this age.

The third relates to *the 'invisibility' of transport*, generally, for the EAs we spoke to. If it is considered useful to encourage people in this age group to cycle then transport has to represent something meaningful in their lives. For the child, cycling is considered fun, certainly affording a level of freedom and mobility not otherwise available. For the clubman, cycling offers a means of getting fit, perhaps of finding some time for him/herself and for aesthetic expression. Also though, for both groups, cycling associates represent the 'in group' and there is as much – if not more – to be gained socially as there is instrumentally from the informally or formally organised activities that both engage in. However, for EAs cycling offers no social benefit – there are many other activities (clubbing, attending university) that offer such advantage - and there is only limited instrumental benefit. For the distances travelled and the purposes of transport normal for the group there is a wealth of more convenient/less stressful options available (bus, tram, train, foot) meaning cycling is largely 'off the radar'.

**Conclusion:** In one respect our results justify the choice of EAs as a constituency for consideration. Not only have they been said to be under-represented in studies thus far, they also reveal themselves to be a group that will be especially difficult to motivate given that, for them, the notion of being a cyclist appears to be anathema, whilst at the same time cycling appears to be an irrelevance. According to Arnett (2007) EAs do not see themselves as either adolescents nor entirely as adults, neither demographically nor subjectively. Further, he suggests, they are 'distinct' in respect of their identity explorations. If we revisit the notion of cycling as practice (e.g. Spotswood, *et al*, 2015) we can see how this generational tension plays out and presents an especial challenge for governmental objectives. Our managerial, or policy, contribution therefore, is to surface EAs' attitudes to cycling and to provide policy-makers with an initial awareness of the nature and extent of that challenge. We clarify what is, and what isn't, important for EAs in terms of deriving social and cultural capital from cycling practice.

Our results suggest that for EAs *competence* in cycling is considered something to be avoided. *In*competence, by contrast, would be considered both 'cooler' and less associated with prior or future generations. The *materials* of cycling, certainly as linked to dominant stereotypes (child and clubman) are similarly off-putting, whilst *meanings* are clearly aligned with an identity that is essentially *non*-cycling. That is, one that proclaims independence simultaneously from both childhood and maturity. Our work contributes to theory, therefore, by establishing how practice is constituted in the minds of EAs. This adds further to the body of knowledge pertaining to practice-related understandings of cycling and, also, extends understanding of cycling and the young beyond traditional interests in children and teenagers. We confirm also, both from a practical and theoretical perspective, the impact of non-situational factors on developing a viable cycling community in the UK.

**References**


Aldred, R. (2010). 'On the outside': constructing cycling citizenship. *Social & Cultural Geography*, 11(1), 35-52.

Aldred, R. (2013). Who are Londoners on Bikes and what do they want? Negotiating identity and issue definition in a 'pop-up' cycle campaign. *Journal of Transport Geography*, 30, 194-201.

Aldred, R. and Jungnickel, K. (2014). Why culture matters for transport policy: the case of cycling in the UK. *Journal of Transport Geography*, 34, 78-87.

Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for?. *Child development perspectives*, 1(2), 68-73.

Benson, J. and Scriven, A. (2012). Psychological, social and environmental barriers to cycling to school. *International journal of health promotion and education*, 50(1), 34-44.

Blondiau, T., van Zeebroeck, B. and Haubold, H., (2016). Economic Benefits of Increased Cycling. Transportation Research Procedia. Vol.14, pp.2306-2313
Bourdieu, P. (1986). *The forms of capital*. In J. Richardson (Ed.) Handbook of Theory and Research for the Sociology of Education: New York, Greenwood, pp. 241-258.

Clayton, W., & Musselwhite, C. (2013). Exploring changes to cycle infrastructure to improve the experience of cycling for families. *Journal of Transport Geography*, 33, 54-61.

Coleman, J. C. (1993). Understanding adolescence today: a review. *Children & Society*, 7(2), 137-147.

Collins, K., Tapp, A. and Pressley, A. (2010). Social marketing and social influences: Using social ecology as a theoretical framework. *Journal of Marketing Management*, 26(13-14), 1181-1200.

Cox, P. (2015). Cycling cultures and social theory. In, P. Cox (Ed.), *Cycling Cultures*. Chester: University of Chester Press, 14-42.

CTC (2015). Cycling and the economy [Online]. Avai;ab;e at: http://www.ctc.org.uk/sites/default/files/file_public/economy1frv.pdf Accessed: 16th August 2016.

Cycling UK, (2016a). Cycling and the economy [Online]. Available at: http://www.cyclinguk.org/campaigning/views-and-briefings/cycling-and-economy. Accessed 15th August 2016.

Daley, M. and Rissel, C. (2011). Perspectives and images of cycling as a barrier or facilitator of cycling. *Transport Policy*, 18(1), 211-216.

Deputy Prime Minister's Office, (2014). *Deputy PM announces £214 million investment in cycling.* [On line]. Available at : https://www.gov.uk/government/news/deputy-pm-announces-214-million-investment-in-cycling. [Last accessed on 9th November 2015].

Department for Transport (2017). Government publishes £1.2 billion plan to increase cycling and walking [Online]. Available at: https://www.gov.uk/government/news/government-publishes-12-billion-plan-to-increase-cycling-and-walking. Accessed 25th April 2017.

Department for Transport (2016a). Public attitudes towards transport [Online]. Available at: https://www.gov.uk/government/collections/statistics-on-public-attitudes-to-transport. Accessed 15th August 2016.

Department for Transport (2016b). Road traffic statistics [Online]. Available at: https://www.gov.uk/government/collections/road-traffic-statistics. Accessed 15th August 2016.

Department for Transport, (2016c). National Travel Survey Statistics [Online]. Available at: https://www.gov.uk/government/collections/national-travel-survey-statistics. Accessed 15th August 2016.

Department for Transport, (2015). *Investing in Cycling and Walking The Economic Case for Action.* [On line]. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416826/cycling-and-walking-business-case-summary.pdf [Last accessed 11th January 2016].

Department for Transport, (2014). *Cycling delivery Plan.* [On line]. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364791/141015_Cycling_Delivery_Plan.pdf [Last accessed 11th January, 2016].

European Commission, (2013). ATTITUDES OF EUROPEANS TOWARDS URBAN MOBILITY [Online]. Available at: http://ec.europa.eu/public_opinion/archives/ebs/ebs_406_en.pdf. Accessed on 15th August 2016.

Füssl, E. and Haupt, J. (2016). Understanding cyclist identity and related interaction strategies. A novel approach to traffic research. *Transportation Research Part F: Traffic Psychology and Behaviour*. In press - http://dx.doi.org/10.1016/j.trf.2016.08.003

Gössling, S., and Choi. A., S., (2015). Transport transitions in Copenhagen: Comparing the cost of cars and bicycles. *Ecological Economics.* 113: 106

Haslam, S. A., Powell, C., & Turner, J. C. (2000). Social identity, self-categorization and work motivation: Rethinking the contribution of the group to positive and sustainable organizational outcomes. *Applied Psychology: An International Review*, 49, 319–339

Hopkins, D. and Mandic, S. (2016). Perceptions of cycling amongst high school students and their parents. *International Journal of Sustainable Transportation*. In press - http://dx.doi.org/10.1080/15568318.2016.1253803

Hopkins, D. and Stephenson, J. (2014). Generation 'Y' mobilities through the lens of energy cultures: a preliminary exploration of mobility cultures. *Journal of Transport Geography*, 38, 88-91.

Horton, D. and Jones, T. (2015). Rhetoric and reality: Understanding the English cycling situation. In, P. Cox (Ed.), *Cycling Cultures*, Chester: University of Chester Press. 63-77.

Hull, A., & O'Holleran, C. (2014). Bicycle infrastructure: can good design encourage cycling?. *Urban, Planning and Transport Research*, 2(1), 369-406.

Jetten, J., Spears, R., & Manstead, A. S. (2001). Similarity as a source of differentiation: The role of group identification. *European Journal of Social Psychology*, 31(6), 621-640.
Keep, M., (2013). Road cycling: statistics. *The House of Common Library* [Online] Available at: file:///C:/Users/mro3alliss/Downloads/SN06224.pdf Accessed 6th February 2017.

Keep, M., (2013). Road cycling: statistics. The House of Common Library [Online] Available at: file:///C:/Users/mro3alliss/Downloads/SN06224.pdf Accessed 6th February 2017.

Kuipers, G. (2012). The rise and decline of national habitus: Dutch cycling culture and the shaping of national similarity. *European Journal of Social Theory*, 17(1), 17-35.

Latham, A. and Wood, P. R. (2015). Inhabiting infrastructure: exploring the interactional spaces of urban cycling. *Environment and Planning A*, 47(2), 300-319.

Law, S. F. and Karnilowicz, W. (2015). "In Our Country it's Just Poor People who Ride a Bike": Place, Displacement and Cycling in Australia. *Journal of Community & Applied Social Psychology*, 25(4), 296-309.

Leonard, S., Spotswood, F. and Tapp, A. (2012). Overcoming the self-image incongruency of non-cyclists. *Journal of Social Marketing*, 2(1), 23-36.

Neff, K. D., & McGehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and identity*, 9(3), 225-240.

Office of National Statistics, (2011). Census Analysis - Cycling to Work [Online]. Available at:
http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/cycling-to-work/2011-census-analysis---cycling-to-work.html. Accessed 15th August 2016.

Oja,, P., Titze, S., Bauman,A., de Geus, B., Krenn, P., Reger-Nash, B., and Kohlberger, T., (2011). Health benefits of cycling: a systematic review. *Scandinavian Journal of Medicine & Science in Sport*. (21:4)

Orsini, A. F. and O'Brien, C. (2006). Fun, fast and fit: Influences and motivators for teenagers who cycle to school. *Children Youth and Environments*, 16(1), 121-132.

Paton, G., (2015, November 9). Cycling at its most popular in 24 years. *The Times.* Retrieved from http://www.thetimes.co.uk/tto/public/cyclesafety/article4448642.ece

Pooley, C. G., (2011, November 9th). *Understanding walking and cycling.* Lancaster Environment Centre, University of Lancaster. Retrieved from http://www.its.leeds.ac.uk/fileadmin/user_upload/UWCReportSept2011.pdf [Last accessed 9th November 2015].

Royal College of General Practitioners, 2016. Physical Activity and Lifestyle announced as a clinical priority by the RCGP. RCGP Press Office: 27th June 2016.

Ryan, J., Svensson, H., Rosenkvist, J., Schmidt, S. M., & Wretstrand, A. (2016). Cycling and cycling cessation in later life: Findings from the city of Malmö. *Journal of Transport & Health*, 3(1), 38-47.

Scarborough, P., Bhatnagar, P., Wickramasinghe, K., K., Allender, S., Foster, C., and Rayner, M., (2011). The economic burden of ill health due to diet, physical inactivity, smoking, alcohol and obesity in the UK: an update to 2006–07 NHS costs. *Journal of Public Health*. [Online]. Availble at: http://www.ias.org.uk/uploads/pdf/Economic%20impacts%20docs/pubmed.fdr033.full.pdf. Access 18th August 2016.

Shove, E. (2012) The shadowy side of innovation: unmaking and sustainability. *Technology Analysis & Strategic Management*, 24(4), 363-375

Smith, A., C., Holland, M., Korkeala, O., Warmington, J., Forster, D., Apsimon, H., Oxley, T., Dickens, R., and Smith, S., M., (2016). Health and environmental co-benefits and conflicts of actions to meet UK carbon targets. *Climate Policy.* Vol.16(3), pp.253-283

Spotswood, F., Chatterton, T., Tapp, A. and Williams, D. (2015). Analysing cycling as a social practice: An empirical grounding for behaviour change. *Transportation Research Part F: Traffic Psychology and Behaviour*, 29, 22-33.

Steinbach, R., Green, J., Datta, J. and Edwards, P. (2011). Cycling and the city: a case study of how gendered, ethnic and class identities can shape healthy transport choices. *Social Science & Medicine*, 72(7), 1123-1130.

Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, 63(3), 224-237.

Sustrans, 2016a. Bike Life: overall survey results. [Online]. Available at: http://www.sustrans.org.uk/bike-life/overall-survey. Accessed 16th August 2016.

Sustrans, (2016b). Government consults on cycling and walking strategy for England [Online]. Available at: http://www.sustrans.org.uk/policy-evidence/our-policy-work/campaigns/government-consults-cycling-and-walking-strategy-england. Accessed 12th December 2016.

Thibaut, E., Vos, S., Lagae, W., Puyenbroeck, T. V. and Scheerder, J. (2016). Partaking in cycling, at what cost? Determinants of cycling expenses. *International Journal of Sport Management and Marketing*, 16(3-6), 221-238.

UK Faculty of Public Health, (2016). Local action to mitigate the health impacts of cars: A briefing statement. [Online]. Available at: http://www.fph.org.uk/uploads/Local%20action%20to%20mitigate%20the%20health%20impacts%20of%20cars.pdf. Accessed 16th August 2016.

Urban Transport Group, 2016. *The Case for Active Travel: How walking and cycling can support more vibrant urban economies*. Leeds: UTG.

Watson, T. J. (2008). Managing identity: Identity work, personal predicaments and structural circumstances. *Organization.* 15(1), 121-143.

Williams, K. C., and Page, R. A. (2011). Marketing to the generations. *Journal of Behavioral Studies in Business*, *3*, 1-17. Available at: http://www.aabri.com/manuscripts/10575.pdf. Accessed 12th May 2016.

Willis, D. P., Manaugh, K. and El-Geneidy, A. (2015). Cycling under influence: summarizing the influence of perceptions, attitudes, habits, and social environments on cycling for transportation. *International Journal of Sustainable Transportation*, 9(8), 565-579.

Winters, M., Sims-Gould, J., Franke, T. and McKay, H. (2015). "I grew up on a bike": Cycling and older adults. *Journal of Transport & Health*, 2(1), 58-67.