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## Cycling circles: gender perspectives and social influence in UK cycling

This study was completed for the MA in Applied Social Research at the University of the West of England, Bristol. The work is my own. Where the work of others is used or drawn on it is attributed.

Signature:.....

This dissertation is 16,417 words long (excluding bibliography & appendices).

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And finally to Steve, for being my research assistant, friend and supporter.

## Abstract

This research is an exciting opportunity to explore an under-researched area of transport and health studies; how gender and social influence relate to cycling behaviour. As well as being cross-disciplinary, it is also novel in the usage of a methodology untried in the transport field prior to this. This involves a two-stage methodology involving interviews with existing cyclists, followed by focus groups with members of their social network (family, friends or colleagues).

An exploratory study to test this approach in Bristol was carried out from May to September 2010 and involved interviews with eight existing cyclists and focus groups with some of the social contacts of two of them, who were a mixture of cyclists and non-cyclists. This study shows that methodology does seem to be a feasible, though challenging way of collecting data about this important and not fully comprehended area of travel behaviour. Many lessons have been learned over the timeframe of the exploratory study and skills and knowledge have also been developed and extended around data collection and analysis.

The intention is now to collect further data in Cardiff employing a refined version of the same method and to interview 20 - 30 cyclists and conduct focus groups with 5 – 10 groups of their social contacts. It is hoped that the research will make a contribution to the growing body of evidence around the workings of social influence, in a new area. It also has potential to enhance our understanding of why greater numbers of women are not cycling in a UK context and how barriers to this may be overcome in the future.

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## **2) Introduction and summary**

This Masters dissertation summarises progress to date in a three year full-time PhD research study, funded by the EPSRC (Engineering & Physical Sciences Research Council), into gender and experiences of cycling and the extent to which social factors play a part in encouraging or discouraging travel by bicycle. Firstly, I will describe the transport policy context and background literature which informs this study. Secondly, I will set out the aims, research questions, objectives and rationale of the study. Thirdly, I will describe and justify my research design and strategy, including the phases of data collection and the method of analysis used. This section focuses largely on the first phase of my research design; the Exploratory Study which was conducted in Bristol during spring and summer 2010 and describes the lessons learned which will be applied to later data collection phases.

This PhD research will form one of the research outputs of the iConnect consortium (Impact of COnstructing Non-motorised Networks and Evaluation of Changes in Travel) research programme. My study seeks to examine the role of gender in UK cycling, including the barriers to greater participation and the factors that can play an enabling role in encouraging more women to cycle. Specifically the research will explore in greater depth the ways in which social influence might encourage or discourage people to cycle for transport and leisure purposes.

The research is cross-disciplinary, drawing on expertise in the fields of both health and transport, with the researcher registered with the Department of Health and Life Sciences, supervised by Dr Jane Powell (DoS) and Dr Paul Pilkington, but also linked with the Centre for Transport and Society, based in the Faculty of Environment and Technology, with further supervision from Prof. Graham Parkhurst. As well as the fields of health and transport, perspectives from sociology, psychology and environmental studies will also inform the study.

### **3) The iConnect research programme**

This PhD research project will take place in the context of a large evaluation of Sustrans' Connect2, an infrastructural programme to connect communities around the UK. The iConnect consortium, (<http://www.iconnect.ac.uk/>) is an interdisciplinary consortium of eight academic institutions with expertise in energy, environment, physical activity, public health and transport research. The iConnect study, funded by the Engineering and Physical Sciences Research Council (EPSRC), aims to measure and evaluate the changes in travel, physical activity and carbon emissions associated with Sustrans' Connect2 programme (<http://www.sustransconnect2.org.uk/>).

Sustrans' Connect 2 is an ambitious UK-wide project to transform local travel in 79 communities by creating new crossings and bridges to overcome barriers such as busy roads, rivers and railways, giving people easier and healthier access to their schools, shops, parks and countryside by walking and cycling.

The five-year iConnect study began in April 2008. It involves a broad evaluation of the whole Connect2 programme coupled with detailed investigations at a small number of selected case study sites. The main study aims to determine whether the new routes created as part of the Connect2 programme have encouraged people to switch from using their cars to walking or cycling, helping them to become more physically active and reducing their carbon footprint. The researcher's analysis and findings will, together with those from five other PhD students, feed into, complement and provide more depth to the iConnect evaluative framework.

#### **4) Background – cycling within current transport policy and practice**

In recent years, cycling has received increased political interest in the UK; unprecedented amounts of money have been made available for cycling infrastructure, and for the promotion and evaluation of programmes (Cycling England, 2008). Cycling levels are increasing in some areas after decades of steady decline, and prominent politicians and public figures have taken enthusiastically to their bikes (Observer 26/07/09 p2). High profile projects, such as, Sustrans' Connect2, Cycling England's Cycling City and Towns and the development and success of the London Cycle Network have all contributed towards a greater prominence and credibility for cycling as both a transport and leisure option (Deegan, 2009).

However, this is set against a background in which levels of cycling are still very low, at 2% of all transport trips nationally (DfT, 2008). Additionally, there is evidence that persuading more people to change their travel behaviour may still present a significant challenge as a recent study of pro-environmental behaviour by Defra (Department for Food and Rural Affairs) highlights (Defra, 2008). This study found that whilst using a car less for short trips would have a high impact in terms of reducing CO<sub>2</sub> levels, people's willingness to change their travel behaviour was fairly low, compared with their willingness to participate in other pro-environmental behaviours such as recycling, wasting less food and better energy management.

Another significant factor in increasing cycling levels is that current uptake of cycling is unequally distributed, with only half (1%) as many transport trips by British women, compared to men with (2%) of all trips being cycling trips (DfT, 2008). Certain groups, such as older people and ethnic minorities are also currently under-represented (DfT, 2008, WDS, 2005). This not only presents equity issues if some groups feel unable to cycle, but may also hinder efforts to encourage greater levels of cycling in the population if large sectors of society are simply not visible as cyclists. Studies of other socially desirable behaviours have found that simply making the behaviour more visible may be one of the factors which can encourage additional uptake (White et al., 2009).

The low level of cycling amongst women in Britain is a pattern which is common to English-speaking westernised countries, such as Australia and the United States (Garrard, 2003). These countries, like the UK, have a low cycling modal share generally, which means that other forms of transport, especially the car, predominate. The same is certainly not the case in other countries with high cycling modal share, such as Holland, Denmark and



Germany where women cycle more than men (Ibid.). In the Netherlands, for example, 31% of all trips taken by women were by bike, compared with 26% of all trips by men (Den Haag, NL cited in Garrard, 2003). In these countries, a 'critical mass' has occurred, 'such that it becomes accepted that the bicycle is a 'normal' mode of transport (Mayes et al., 1996).

So, this raises a number of questions concerning women's participation in cycling compared with men in the UK. Could it be that women are just less active, with lower levels of interest in sport and exercise generally and therefore inherently much less likely to cycle? Are women more risk-averse than men and if so, why? Or are they, as Merom has suggested, (Merom, 2003) simply less interested in cycling? Parkin has argued that factors such as 'self image, perceived ability and social norms also play a part', though again, these have not been comprehensively examined with respect to gender (Parkin, 2007a).

In Germany, Holland and Denmark there has been a determined and highly successful effort to reverse the declining share of bicycle usage which became common to the majority of Western European countries with the increasing affordability and popularity of the car. Policies to deliberately provide facilities for cyclists and to 'tame' the dominance of motorists were implemented, which stands in contrast to the 'predict and provide' attitude prevalent in UK transport planning until recently (Vigar, 2002). This way of thinking - highly dominant in the British (and American) transport spheres - involved not only the perception that the car was the 'rightful' user of the road, but also that increasing amounts of new road infrastructure had to be built to accommodate the rising number of motorists. Recent indications from the coalition government suggest that such an attitude may be in favour once more (Telegraph, 14/05/2010).

## **5) Literature review**

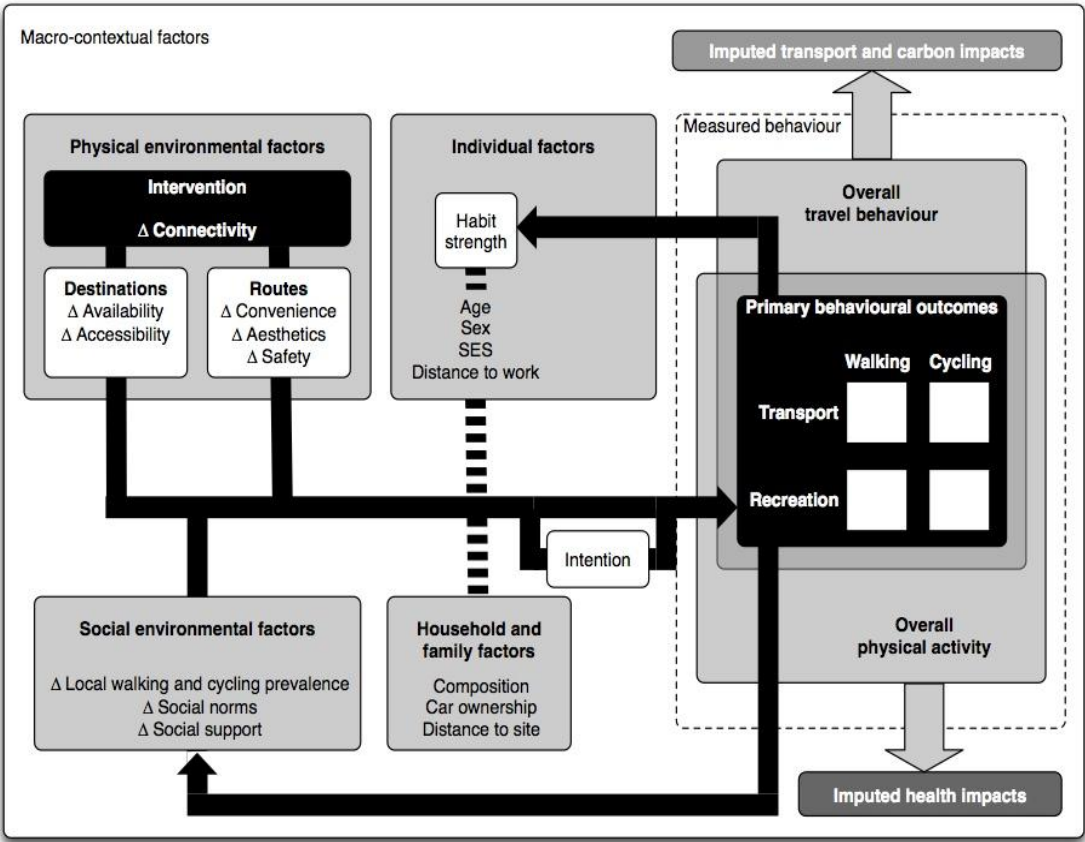
In this section I will describe how cycling has been conceptualised within the field of transport research, emphasising the multidisciplinary nature of cycling research. I will also consider how gender differences have been described within transport and health research. Reports from the field of behavioural psychology and the role that social influence may play in encouraging or discouraging both men and women to cycle will also be discussed. Finally, I will explain the ways that the literature review leads to the development of research questions and feeds into my research design, creating a clear rationale for my research study.

### **5a) Conceptual framework of research project**

The conceptual framework for this research study will be adapted from that used for the iConnect consortium as a whole (see Fig 1 below). This framework will be adapted to suit the particular focus of this research project with its interest in gender differences in cycling and social influence. After full analysis of the Exploratory Study (Phase 1) in winter 2010-11 a draft framework focussing purely on this PhD project will be developed, and then further refined in light of the results of the main data collection phase in Cardiff (Phases 2 & 3). However, since this framework forms the background to the thinking of the iConnect consortium, I think it makes a useful starting point.

This research will be mainly concerned with the processes contained in two areas. Firstly, the bottom left-hand box (social environmental factors), which contains aspects such as local walking and cycling prevalence (visibility), social norms and social support. These will contain various self-reinforcing feedback loops whereby for example a person's level of social support to enable them to cycle encourages them to take up or continue cycling. Exactly how these processes work is not yet known and this study will help to answer some of these questions. Secondly, the research will be concerned to assess the differences contained in one of the individual factors (middle-top box), which is gender/sex.

Figure 1: The iConnect consortium conceptual framework



Ogilvie, D. et al. (in press) AJPH

## **5b) Cycling & Gender in the Transport & Health Literatures**

### **i) Active Travel within Transport**

Within the transport research field cycling and walking have traditionally received scant attention and have not been accorded the same status as motorised forms of transport (Hillman, 1997a). More recently this has begun to change, with a greater number of funded studies to try and evaluate the worth of the active travel modes (cycling & walking) from economic, health & social and environmental angles. This has emerged due to the recognition of a whole host of problems with current patterns of mobility; emissions from transport contributing to climate change, pollution, obesity and overweight due to inactive lifestyles, restrictions on children's play, lack of social connections and social exclusion amongst others (Foresight, 2007).

There is increasing interest from the health sector in the contribution which active travel can make towards better health and decreased incidence of overweight and obesity among the population. Given that only one third of men and a quarter of women achieve the government's physical activity targets of 30 minutes of physical activity at least five times per week (BHF, 2005), the potential of easy, cheap and convenient forms of exercise such as walking and cycling is clear.

Conversely, looking at the general trend of a reduction in walking and cycling, Davis et al found that 'a reduction in walking of just eight minutes a day may be sufficient over the long term to increase body weight from a BMI of between 20-25 (healthy weight range) to over 30 (obese)' (Davis et al., 2007: 49). In addition to weight control, active travel can also help guard against modern health problems, such as cardiovascular disease.

A Danish study of active travel provided evidence that 'commuting physical activity, independent of leisure time physical activity, was associated with a healthier level of most of the cardiovascular risk factors. An increase in commuting physical activity in the population may therefore reduce the incidence of CVD (cardiovascular disease)' (von Huth Smith & Borch-Johnsen, 2007: 771). They also found that this effect was strongest in women, so women may receive proportionately more benefit from active travel than men, though it is not clear exactly why this is the case. It may be linked to the amount of other, leisure time physical activity which men and women take part in, since women in general are known to exercise less (WHO, 06/11/2009). Therefore,

the protective effects from regular, long-term active travel may be of greater importance to women.

Vigar, in his study of how sustainable travel initiatives were implemented in several local authorities, points out that transport issues, such as over-dependence on the car, have been (and often continue to be) framed as congestion issues rather than fully recognising wider and much larger concerns, such as carbon emissions (Vigar, 2002). This viewpoint is critical, as it determines whether cycling is seen as a nice 'add-on' once demand for road space for cars has been resolved, or as a vital part of reducing both the amount which we travel per se and far greater numbers of trips being made by sustainable modes.

## **ii) Cycling specific research**

Aside from the wider debates over sustainable transport within the transport community, cycling-specific research has focussed on a broad range of areas. Rosen in his review of cycling research projects found over 160 studies conducted in the UK since the early 1990's. He found that the most prominent issues which emerged from the knowledge base were infrastructure & design, safety issues, the cultural dimensions of cycling and transport and the position of cycling within the overall modal split (Rosen, 2003).

Some gaps he identified were; a limited understanding of the balance between utility and leisure cycling, little awareness of the interconnectedness between behaviour and technical issues and little knowledge about how to bring new children or adults to cycling (ibid). Unfortunately, whilst the review, which was conducted to see how cycling research could help implement the National Cycling Strategy, recognises social inclusion, health and young people as areas for research attention it fails to adequately explore the relationship between gender and cycling behaviour.

## **iii) Barriers to Cycling**

One of the crucial questions for those who wish to increase levels of cycling is to consider obstacles or barriers that the potential cyclist might encounter. Some of these are described in Table 1 below which details the stages that a potential cyclist must navigate. To examine the ways gender impacts upon such barriers and the relative importance of barriers for men and women is one of the aims of this research project, as the research evidence demonstrates this is as yet, unclear.

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**Table 1: Whether to cycle to work or not? (with added gender dimensions)**

Stage 1: personal considerations

- Being open to consider an alternative to the car (if they have one, or to usual mode)
- Proper attitude – a bicycle is a transportation vehicle (and is one 'suitable' for women)
- Realistic assessment of the safety issues (counter to social norms & media portrayal)
- Physical ability to cycle (also reasonable assessment of the level of difficulty of cycling relative to the individual's level of fitness)
- Equipment/training/experience to use a bike for transportation (women may have less experience and training, partly due to gender patterns in childhood)
- Family responsibilities (i.e. child care) (women still tend to have primary responsibility for care of other family members, such as children, elderly relatives, etc.)
- Needs for a car at work during work hours (or suitable alternative such as pool car/bike)

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Next, the willing from stage 1 need to see the trip as reasonable practically:

Stage 2: trip features

- Reasonable travel time and distance (different for men & women?)
- Direct route with minimal delays (and/or 'safe' route)
- Appropriate roadway facilities (e.g. bike lanes, bridge crossings etc)
- Well-maintained facilities (lack of glass & debris and without a feeling of threat from others)
- Reasonable traffic volumes (speed of traffic and driver behaviour also need to be 'reasonable')
- Negotiable terrain (hills, gradients, difficulty of route)
- Acceptable weather conditions or knowledge to deal with same (of greater concern to women, given high degree of importance given to women's appearance)

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Finally, those willing and able with acceptable trip features must overcome:

Stage 3: Destination barriers

- Secure bicycle parking (does it feel secure to women, i.e. is it lit, overlooked?)
- Clothes lockers to store work clothes (these may need to be of reasonable size to allow good storage)
- Showers or changing facilities on-site or nearby (well-maintained/secure/individual cubicles?)
- Employer / co-worker attitudes: flexi-time, relaxed dress codes, encouragement; facilities, cash incentives, recognition (are there gender differences in employer/co-worker attitudes to cycling?)

(Adapted from Tolley, 1997: 15)

#### **iv) Potential of walking and cycling**

A few key advocates within the transport field, such as Hillman, Tolley and Whitelegg have called for much greater prominence to be given to active travel modes of walking and cycling, but until recently this view has not been widespread. They have pointed out the potential which such modes have to solve some of the multiple policy problems described above. Mackett, for example, estimates that 31% of everyday short journeys could be transferred from car to walking and 78% to another sustainable mode, even with current levels of infrastructure (Mackett, 2001, cited in Jones, 2009).

Darnton, citing economic modelling of cycling which valued improvements in health and reductions in congestion and pollution, states that 'a 20% increase in cycling by 2012 would release a cumulative saving of £500 million by 2015 (Darnton, 2009: 23). Hillman has gone further and suggested that spending on walking and cycling is by far *the* most cost-effective and useful way of tackling problems within the transport sector. He argues that 'there should be a presumption in favour of giving priority to the creation of networks for cycling and walking – well in advance of, but not of course precluding – investment in public transport' (Hillman, 1997a: 110).

Of course, as well as acting to complement and encourage walking and cycling for certain journeys, public transport and active modes of transport may also be in competition as Vandenbulcke notes (Vandenbulcke, 2009). There are some transport researchers who have criticised the emphasis on cycling and as Wardman argues: 'there remains a scepticism in some quarters that improvements to cycling can deliver what is promised by its advocates' (Wardman et al., 2007: 349). Yet others may see any travel time savings as a worthwhile investment and so view a modal shift from walking or cycling to bus patronage as a transport gain (Lucas et al., 2009).

Writers from the fields of health, environment and sustainability, psychology, and social & cultural studies have also considered cycling and called for a switch from car trips to cycling trips. A recent report from the Sustainable Development Commission, suggested 'handing out free bikes to encourage more people to take up cycling for journeys of five miles or less', as one of its 'Breakthrough Ideas for the 21<sup>st</sup> Century' (Gray, 2009). Davis et al also call for comprehensive action to return to walking and cycling levels which were in evidence before the growth in car ownership in the 1970s, to curb the twin problems of obesity and climate change (Davis et al., 2007).

Despite the range of evidence which has been presented on how walking and cycling can make a significant contribution towards many policy goals in health, transport, environment and social spheres, the commitment to providing for these modes has been low from national and local government, outside of a few key cities such as York, Oxford, Cambridge and Hull. However, the recent investment in programmes, such as, Sustrans' Connect2 and Cycling England's Cycling City and Towns initiatives, may have signalled a shift of emphasis towards greater interest in the active modes of travel at a national level.

#### **v) Transport and Gender**

Several studies have looked at transport patterns generally from a gendered point of view (Handy, 2004, Rosenbloom, 2004, Ker & Tranter, 2003, Hamilton, 2003, Hjorthol, 2008, Hunter, 2004, Arbour & Ginis, 2009, Garrard, 2003, Garrard, 2008, WDS, 2005, Bell et al., 2006). The main conclusions of these studies are that men and women's patterns of mobility are different; women generally travel smaller distances, have a lesser degree of access to cars (where these are available in the household), have more complicated patterns of travel (often referred to as trip-chaining), and tend to use their mobility to help others, by escorting children or less-mobile or less-confident adults to activities.

The interpretation of such data, however, has varied, with some viewing greater gender equality as being provided by women having more access to cars, to give them the same transport opportunities as men (Uteng, 2008, Ortoleva & Brenman, 2004). Ortoleva & Brenman, in an American context, advocate that: 'counties should expand their existing programs or create new programs that lend money to welfare recipients and other low-income families to purchase cars' (Ortoleva & Brenman, 2004: 274). This is prescribed to alleviate perceived problems of lack of opportunity for women in the transport sector.

Other authors have taken the opposite view, arguing that modern patterns of land use and transport provision have made women's (typically more localised) journeys increasingly difficult and so have forced them to adopt car-based travel behaviour more out of necessity than choice; in other words limiting rather than adding to their freedom. As Ker and Tranter state: 'Many women feel forced into purchasing a motor vehicle because of fears for their personal safety as pedestrians, as cyclists or on public transport. Thus women may feel deprived of the freedom not to own a car' (Ker & Tranter, 2003: 108).



This suggests a tension between those who advocate women adopting what may be seen as male, car-dominated patterns of transport, and those who argue for a more careful analysis of wider solutions including the provision of services which enable more localised transport patterns and which would favour greater levels of walking, cycling and public transport. Pooley et al, in their study of mobility in Britain in the twentieth century, argue that prior to the rise of the motor car there was: 'a consistent trend for women to be more dependent on walking and slower forms of public transport such as buses, trams and trolley buses. Before the rise of the motor car, men were much more likely to commute by bicycle and train' (Pooley et al., 2005). However, the reasons behind such patterns are not clearly established, and equally, they may not necessarily be useful as indicators of potential future patterns of travel.

#### **vi) Cycling and Gender**

Women in the UK currently cycle much less than their male counterparts, whereas this is not the case in countries which have high levels of cycling generally, such as Holland, Denmark and Germany (Garrard, 2003). In the UK 1% of all transport trips by women are by bike, whilst for men it is 2% (DfT, 2008). In London, where levels of cycling have been increasing significantly over recent years, the gender gap is most evident in the youngest age group; 2% of females aged under 25 cycle, whilst 11% of males in the same age group do. In the 25 – 44 age group, 40% of males and 21% of females cycle, whilst in the 45 and above age group levels are similar at 12% for women and 14% for men (TfL, 2008). This shows that although women of all ages cycle less than men, there may be peaks of disparity in cycling levels at different stages of people's lives.

In the US context, research found that areas with higher levels of cycling tended to have a higher ratio of female to male cyclists (Emond, 2009). This echoes research in a European context by Smith, who concluded: 'a more even balance of male-female cycling tends to be correlated with more cycling, reflecting a more mature, well-developed cycling market. As cycling retakes market share, it expands from early adopters (typically young males) to the wider population' (Smith, 2005: 4). The mechanics of how such a shift occurs is not well-known, however.

Part of the reason why women in the UK cycle less than men may be due to patterns laid down in childhood. A recent evaluation of Merseyside Bikeability programme, aimed at encouraging more children to cycle by providing cycle training, found that 'males were reported as more likely to enjoy cycling, more likely to have improved

confidence, more likely to be cycling, more likely to have increased their levels of cycling as a result of the training and more likely to have induced a positive response in their wider family towards cycling' (Moore, 2009: 9).

These patterns may link to wider social norms about what is deemed 'good' and 'appropriate' activity for boys and girls. The differences become more marked at secondary school, where some girls were reported to have 'lost interest in cycling when boys came along' (ibid). This echoes findings from Sustrans' Bike Belles initiative which found that teenage girls were most concerned that they 'didn't look good' when riding a bike (Henry pers. comm. 24/09/2009). However, as Thorne notes, care is needed not to over-emphasise the 'different cultures' model of the socialising of boys and girls, and to attend both to 'multiple differences and sources of commonality' in the gender relations of children and young people (Thorne, 2002: 299).

There are a number of reasons why cycling may offer a good transport and leisure solution for women and also why women may be more persuaded by the benefits of using a bike. As mentioned earlier, women often have more complicated patterns of travel behaviour, which may be managed more easily by bike, if other barriers have been overcome (Lehner-Lierz, 1997). If facilities are present, a trip chain which involves dropping a child off at school, picking up a few items from the shop, visiting the bank and then going to work yourself, may even be accomplished more quickly and easily by bike than by any other mode and does not involve looking up lots of complicated timetables, or searching for car parking spaces.

If some of the key barriers to women's participation in cycling can be overcome, using a bike may provide women with a flexible, quick and cheap transport option, especially in large urban centres. Some research has found that women can sometimes feel safer on a bike, as compared to walking, as Aldred found with one of her interviewees: 'As a woman... I kind of think I'm less vulnerable on a bicycle so I would cycle places where I wouldn't walk' (Aldred, 2008: 10). Of course, whilst women may feel safer on a bike than as a pedestrian, they may still feel less safe as a cyclist than as a driver.

### **vii) Gender & Barriers to Cycling**

This study explores further the barriers to women cycling more, some of which are: fear (actual fear of both volume and speed of traffic, perceptual fears of the same and

also both real and perceptual personal safety concerns), risk aversion, lack of quality facilities such as off-road and segregated on-road routes, lack of cycle parking, showers & bike storage facilities, poor weather conditions, topography, concerns over personal appearance, and psycho-social and cultural barriers (Atkins, 1986, Garrard et al., 2008, Gatersleben & Appleton, 2006, Lehner-Lierz, 1997, Parkin et al., 2007, Stredwick, 2004, Vandenbulcke et al., 2009). Studies have found that barriers to cycling are split along gender lines, with a few researchers concluding that women prefer separate cycling facilities, either partially or totally segregated from motor traffic (Brown, 2004, Garrard et al., 2008; Parkin et al., 2007, Sustrans Bike Belles, 2009). This evidence is fairly consistent across a number of studies, and it is also often found that non-cyclists or infrequent cyclists request such facilities also, whilst experienced male cyclists usually do not.

Personal safety concerns are of importance to women who may both be more likely to report violent or harassment incidents, and also to fear them more (Atkins, 1986). Atkins also notes that the way in which such incidents are viewed is unhelpful: 'a lack of appreciation and understanding is common, together with a presumption that such incidents are an everyday, normal occurrence and should be accepted as part of urban living for females' (ibid: 5).

Handy argues that: 'this difference between the genders in the level of personal safety concern is especially prevalent in public places, including the transportation system' (Handy, 2004: 34). This may impact directly on levels of cycling and walking, with those viewing their neighbourhoods as unsafe being less physically active (ibid.) (although as noted earlier, there may be differences between these modes in terms of perceived user safety). A study of how safe male and female students and staff felt at an American university campus found a more than three-fold difference in the numbers of females who were concerned about their personal safety on campus compared with males, and also found that women were much more likely to restrict their movements because of this fear (Klowdasky & Lundy, cited in Bianco & Lawson, 1996).

Many women may also perceive their ability to ride a bike as low, making them less likely to want to cycle, especially on roads. Rider position may have some influence here also, with less experienced and less confident cyclists tending to ride on the edge of the road, near to the pavement. Walker, in his study of driver behaviour when overtaking cyclists, found that 'the further the rider was from the edge of the road, the closer vehicles passed', so there

may be some justification for this hypothesis (Walker, 2007: 417). However, there was potentially some comfort for women (or perhaps just those women who have long hair) from another of his findings; 'when the (male) experimenter wore a long wig, so that he appeared female from behind, drivers left more space when passing' suggesting that this may provide a reduced degree of danger for women cyclists (ibid.)

Pooley et al. in their analysis of mobility patterns during the 20<sup>th</sup> Century, found that whilst the reasons men and women gave *for* cycling to work were similar, the reasons *for not* cycling were different. Men were most likely to cite a lack of safe bike storage, laziness, the need to look smart for work and the weather. Women, on the other hand, were more likely to give the following reasons: fear of cycling in urban traffic (or that other's fear prevented them), that they had never considered cycling to work or that they could not afford to purchase a bike (Pooley et al., 2005: 124). This would seem to add further weight to fear being a significant factor as a barrier to women's participation in cycling.

Additional cultural barriers may include the perceptions of cycling as a 'sport' which is off-putting to some women and the general macho/technical image of current UK cycling, where women feel they may be made to look ignorant (Davies et al., 1997). Some bike shops, cycling magazines which tend to show young 'sporty' men on mountain bikes and some cycling organisations may also exacerbate these perceptions (ibid). Showing female role models to whom non-cycling women can relate has been suggested to counteract this to some degree (Davies et al., 2001). Having more female participants in cycling groups and campaigns and more women writing about their experiences of cycling may help to balance some of the male-dominated nature of much cycling culture.

Women may also fear that they will be socially marginalised if they cycle whilst others drive and so may view cyclists in a negative light. Several studies have found that the perceived low social status of cycling is a deterrent to many (Finch & Morgan, 1985, Mayes et al., 1996) although in reality the pattern is not clear cut but tends to run contrary to this perception. Official figures show that the highest and lowest socio-economic groupings tend to travel greater distances by bike than those in the middle ones (DfT, 2006), whilst Parkin found that 'wards with higher proportions of 'higher professionals' display higher levels of cycling to work' (Parkin et al., 2007: 107).

However, these patterns may be more applicable to men, since they make up 70% of current cyclists and it is not clear how such status issues might impact on women.

Prior marketing of both cars and bikes has largely been to men, rather than women, and it is believed that men may invest more of their status in cars or be more emotionally attached to them than women (Steg, 2005). Advertisements appeal to peoples' emotional desires for 'power, control, self-esteem and social status (Steg et al., 2001: 152). Some recent car advertisements seek to make a direct cognitive connection between an emotional state and the product, such as the recent 'Joy' ad campaign for BMW.

There is some evidence that women may be less willing to overcome issues of discomfort when cycling than men. Emond et al., in their study of cyclists in Davis, California, found that the most important determinant of cycling for women was their 'level of comfort bicycling' (Emond et al., 2009). Although men experienced the same (subjective) discomfort on average as women, they were more likely to state that they would ride anyway, whereas women said they would not. What exactly is meant by 'comfort' in this context is not clearly stated and it could be related to both physical and/or psychological comfort.

There is also evidence that women may be more willing to adopt behaviours which they perceive as being good for the environment (Kollmus & Agyeman, 2002, Hunter et al., 2004), of which cycling may be seen as one. Hunter et al. found that this was quite a nuanced picture, with women not being more likely to take part in 'public' environmental behaviours, such as volunteering time and attending meetings, but were more likely to engage in 'private' environmental behaviours such as recycling and eating organic foods (Hunter et al., 2004).

This may bode well for encouraging greater numbers of women to cycle, since cycling and walking may perhaps be thought of as 'private' behaviours. Studies have also found that along with a greater environmental concern, women 'showed greater scepticism towards the role of technology in the search for solutions to environmental problems' (Wehrmeyer & McNeil, 2000: 211). This may also suggest a greater interest in cycling by women as a sustainable transport solution, rather than a technological solution such as biofuels or electric cars, provided that the significant barriers mentioned earlier may be fully recognised and overcome.

### **5c) Social influence**

In recent years a great deal of interest has been shown in a range of theories and methods which examine our social relations and how people influence one another. Fields such as social psychology, behavioural economics and social marketing have been seen as instrumental in helping to solve some of the more intractable social problems. Such theories have a premise that people generally do not necessarily behave in a rational, predictable, self-interested way, but instead are greatly influenced by both their own values, beliefs, norms and emotions and also by those of others.

The previous, dominant model of behaviour, the 'rational choice model' presumed that individual self-interest was paramount in peoples' decision making, that choices were deliberated over in a rational manner and consumer preferences were not greatly investigated. This model has now been criticised as being not only too limited in scope, but also based on flawed assumptions (Jackson, 2005), though it is still much used in many fields, including transport research.

One such assumption is the idea that decisions are always carefully pondered, whereas research has found that people use 'mental short-cuts' – habits, routines, cues, heuristics – which reduce the amount of cognitive processing needed to act and often bypass cognitive deliberation entirely' (Jackson, 2005: vii). Will the provision of new Connect2 infrastructure, together with the social influence from friends/family/colleagues using it, be sufficient for people to re-assess habitual behaviour? It is also apparent that people have emotional responses to products (i.e. cars being seen as expressing an individuals' personality) and that this may influence their consumer behaviour. A further critique of the rational choice model is that of the presumption of self-interest always being the dominant behaviour frame – people also display moral, social and altruistic behaviours also (ibid).

As part of the exploratory stage of my research I would like to frame questions based on a number of diverse theories of behaviour, such as Ajzen's Theory of Planned Behaviour, Triandis's Theory of Interpersonal Behaviour, Schwartz's Norm-Activation Theory, Stern's Value-Belief-Norm Theory and Cialdini's Focus Theory of Normative Behaviour (Jackson, 2005). The strengths and weaknesses of the different behavioural theories will be assessed and a table prepared summarising this information will be produced. I will use the pilot study (phase one of my research) to help me determine which theory or theories will be most useful to this particular study.

Some other recent examples of popular books in this area which synthesise different theories are Thaler and Sunstein's 'Nudge', which focuses on how small signals in policy can persuade people to adopt socially or environmentally desirable behaviours, and Gladwell's 'The Tipping Point', which explores how behaviours spread quickly in a viral way, and how such phenomenon may be countered and/or utilised (Thaler & Sunstein, 2008, Gladwell, 2000).

Research from a number of fields is useful to draw upon in consideration of the ways individuals respond to social influences in changing their behaviour. White et al, in their study of social influence in the area of household recycling claimed that "future interventions should attempt to address perceptions about the ease and self-efficacy of recycling" (White et al., 2009: 155). This study found that the 'visibility' of the behaviour which was being encouraged was important, so that people "can accurately perceive the number of people engaged in the target behaviour". This type of social norm may also be important in encouraging cycling amongst women – if women do not see other women cycling they may not be able to sufficiently 'identify' with it as something they can see themselves doing.

Within the health field many recent programmes have used either social marketing techniques or social behaviour theories to try and achieve behavioural change on issues such as smoking, drug and alcohol abuse, diet, exercise and healthy lifestyle. Some of these programmes have looked at how social pressures via peer groups are particularly influential in encouraging or discouraging certain behaviours, and this will be an important aspect to probe in my research. If possible, I will assess which particular groups seem most influential (colleagues, friends/peers and family) and whether there are gender differences in these patterns.

Gatersleben found that affective factors relating to car use were gender differentiated, and the emotional components of cycle usage may well be gender specific also (Gatersleben, 2007). Of course there are many other social actors who influence people's decision making such as media personalities, religious leaders, community leaders and politicians and those who are fellow member of social interest groups. These all have differing levels of influence with individuals, but for this research I am primarily concerned with friends, family and colleagues. The degree of influence of other such sources will form part of the thesis.

## **6) Aims, Objectives and Research Questions**

I am interested in the way in which gender impacts on people's willingness to cycle and whether (and how) those that do take up cycling socially influence others. Such behaviour may have the potential to create a 'virtuous circle' (whereby those who take up cycling encourage others to do so; over time creating a significant transport and cultural shift) which promotes greater levels of walking and cycling (Plowden cited in Avineri et al., 2009). Bristol has been used as the site for the exploratory study, whilst for the main data collection the area around the Connect2 site in Cardiff/Penarth will be used as a case study in which to investigate these issues.

The Pont y Werin or People's Bridge connects the market and seaside town of Penarth in the Vale of Glamorgan with the offices, shops and facilities of the Cardiff Bay area. A series of routes linking with the bridge are planned, and it will also link in with the wider cycle network in the Cardiff area, including the popular Taff Trail (National Cycle Network route 4). There is enthusiastic local support for this link and its supporters believe it has the potential to encourage many more people to choose to cycle to work and for shopping and leisure purposes (Sustrans, 2009). Cardiff Connect2 scheme has also been chosen as a case study site for a longitudinal questionnaire in the wider iConnect study, aimed at detecting changes in travel behaviour patterns pre- and post-intervention. If this infrastructure is able to make these links easier, faster and more convenient, then it will also be in people's interest to use them.

### **Aims:**

- To investigate gender differences in cycling in the UK and determine the key reasons for the lack of participation in cycling by women.
- To understand the relationships between culture, environment, infrastructure and gender in cycling behaviour.
- To discover whether social influence is a significant factor in persuading more people (and especially more women) to cycle.

### **Objectives:**

- 1) Understanding the context: to explore the existing evidence base relating to gender and cycling and discover reasons for the current disparity between men's and women's levels of cycling.



- 2) Exploring practical and social factors: to better understand how instrumental and affective dimensions influence cycling for both genders, but particularly women.
- 3) Assessing behavioural change: to determine how cyclists may or may not socially influence their friends, family and colleagues.
- 4) Using the evidence: to disseminate insights from the study with the hope that future cycling initiatives and policies will be targeted to appeal to both men and women.

The literature review explored previous research from the transport and health fields into transport and more specifically gender and cycling. It then gave a brief overview of approaches taken in the behavioural change fields which will inform the part of this study which is examining the role social influence may play in cycling. The research design attempts to find the most appropriate way of answering the research questions below; in this case it is believed that a mixed-methods approach using in-depth interviews, social reference focus groups and using the wealth of secondary quantitative data available to the researcher is the most fitting.

Much of the evidence collected in this study will be qualitative data, which will give voice to how men and women's experiences of cycling may differ and also how people may be influenced by others in a social context to adopt new or different behaviours. The findings will be used as part of this PhD research, but also form part of the iConnect consortium evaluation of the Connect2 programme. Some details of the outputs envisaged from the research are described below, and I also plan to assist on iConnect work package 6 (WP6) which is concerned with communications and dissemination.

The primary output from this research project will be the PhD thesis, due for completion by November 2011 at the latest (August 2011 is the current aim). The other outputs envisaged are threefold: conference presentations, journal articles and other dissemination in public settings, seminars and via media output (please see the next page).

## PhD Research Project dissemination schedule 2010-2011

**March 2010:** Health & Social Care Research Students Training Day, oral presentation – literature review and pilot results

**March 2010:** UK Public Health Association Conference (UKPHA), Bournemouth, poster presentation – literature review & pilot results

**July 2010:** ESRC Research Methods Festival, Oxford, poster presentation - literature review & methodology

**July 2010:** Faculty of Health & Life Sciences Research blog – feature on my research project

**July 2010:** UWE Press Office news release on my research project – Radio interviews on BBC Radio Bristol & Jack FM, article in UWE Bulletin & Cardiff Mail

**August 2010:** Informal Centre for Transport & Society Seminar, oral presentation - exploratory study results & initial analysis

**Sept 2010:** Cycling & Society Symposium, Oxford, oral presentation – exploratory study results & initial analysis

**Dec 2010:** Built Environment Review, small contribution to journal article entitled 'The health economic case for infrastructure to promote active travel: a critical review'

**Dec 2010:** Centre for Transport & Society Winter Conference, oral presentation - methodology

**Dec 2010:** Centre for Transport & Society/Bristol Social Marketing Centre Understanding and Motivating Cycling seminar, oral presentation – overview of project & initial results

**Jan 2011:** Universities Transport Study Group Annual Conference (UTSG), Milton Keynes, oral presentation – methodology

**Jan 2011:** UWE's Social Science in the City, oral presentation in public setting – initial analysis

**Feb 2011:** Faculty of Health & Life Sciences Research Students Training Day, oral presentation – initial analysis

**March 2011:** GWR Sustainability Seminar, oral presentation to SW Universities using video-conferencing – initial analysis

**Sept 2011:** Cycling & Society Symposium, Glasgow, oral presentation – full results

**Jan 2012:** Universities Transport Study Group Annual Conference (UTSG), oral presentation – full results

Additional opportunities may also arise, depending on exact timings of research.

Journal articles will be completed in the later stages of the research study or soon after completion, targeted at key journals in the areas of transport, health, sociology, gender studies and the environment. Examples of journals which may be targeted are: Journal of Physical Activity & Health, Gender, Place & Culture: a Journal of Feminist Geography, Transport & Environment, Psychology & Health, Local Environment, Journal of Social Issues, Transportation Research Part D, Journal of Public Health, Gender & Society, Transport Policy, Social Science Quarterly, Health & Place.

The researcher is also keen to use other channels to disseminate the research, and to assist in disseminating the wider iConnect results also. A British Science Association Media Fellowship was applied for in 2009, which unfortunately was unsuccessful, which involves spending a period of time with a national media outlet, gaining hands-on experience of the day to day working practices of the organisation and also receiving a unique opportunity to promote the research study.

As well as the media fellowship, I plan to write about the research for local media outlets in the Cardiff/Penarth area at the end of the study, and to provide a results summary for all participants who request one. A cornerstone of this research, for me, is that it will link back to wider policy and practice and encourage, where possible, greater participation in cycling, especially by women. I subscribe to Flyvbjerg's view that social science works well when it engages with practice and seeks to actively influence social outcomes; what he terms 'phronesis' (Flyvbjerg, 2001).

## **Research Questions:**

The research will be conducted in four phases; 1) Exploratory study, 2) In-depth interviews, 3) Social reference focus groups and 4) Secondary quantitative, which are discussed in detail later, but are identified here to give context to the research questions.

1. In what ways do men and women perceive barriers to using cycling as a mode of transport for both commuting & leisure needs? (Phase 1: Exploratory study & 4: Secondary quantitative)
2. What role does social influence play in encouraging people to participate in cycling? (Phase 2: In-depth interviews)
3. To what extent are there gender differences in the ways in which social influence operates on participation in cycling? (Phase 2: In-depth interviews)
4. To what extent do social reference groups provide a valid method to examine the construction of social influence in relation to women's participation in cycling for transport and leisure? (Phase 3: Social reference focus groups)
5. How can the enabling cultural and environmental factors which encourage women's participation in cycling best be facilitated? (Phases 1: Exploratory study, 2: In-depth interviews & 3: Social reference focus groups)

## **7) Research design & strategy**

These research questions will be approached using a mixed methods, flexible research design which will include in-depth, semi-structured interviews with 'instigators' (initial research participants) and social reference focus groups, as well as use of secondary quantitative data to investigate broader UK gender and cycling patterns.

This study is exploratory in nature due to the gaps in the research literature. My research questions, aims and objectives were refined and improved upon during the exploratory piloting phase of the research in Spring/Summer 2010 and as part of the ongoing literature review and as part of an inductive approach to this research. Mason describes how a pilot study can be used to 'try out sampling strategies, data generation and analytical techniques and to firm up on your intellectual puzzle and your research questions' (Mason, 1996: 33). I see this as an integral part of narrowing the focus of the research.

The rationale and assumptions underpinning the adoption of a flexible design such as this are described below. Robson describes how flexible designs incorporate a number of key factors, such as: an evolving design, the presentation of multiple realities and a focus on participants' views (Robson, 2002: 166). These factors are derived from a critical realist perspective which rejects the extremes of both positivism and relativism and instead seeks to recognise that whilst there is an external reality which exists independent of our awareness of it, that reality is only knowable through socially constructed meanings (Shape & Spencer, 2003: 16).

From a critical realist view 'all methods of study produce approximations of reality and incomplete understandings of phenomena of interest as they exist in the real world, the findings of flexible method research can be seen as no more or less legitimate than those of any other type of study' (Anastas & MacDonald, cited in Robson, 2002: 167).

Researchers within the critical realism tradition seek to not only collect observations of the social world but also to 'explain these within theoretical frameworks which examine the underlying mechanisms which inform people's actions and prevent their choices from reaching fruition' (May, 2001: 12). I would argue that a flexible design which is able to be revised throughout the research process and which seeks to continually improve upon the understanding gained about the topic of gender and cycling through the participant's perspectives fits well with the research aims, objectives and questions. This approach also

allows the researcher to acknowledge their own values and employ reflexivity, rather than claiming a 'value-free' stance.

## **8) Research methods**

### **8a) Phase 1 – Exploratory study (Questions 1 & 5)**

The piloting phase of the research was planned to commence from December 2009 onwards, but this actually took place from April – September 2010. This planned to test the feasibility of the innovative methodology which has been devised for this study, namely, individual interviews with current cyclists and then forming a focus group using people they know in order to discuss their perceptions of the original cyclist. There are likely to be a number of challenges to this method in practice, these are described further on in Section 10.

The initial interviewees, whilst perfectly willing to be interviewed themselves, may feel uncomfortable about giving me contact details about people they know. Also, since the focus groups will concentrate on discussing the cycling behaviour of the initial interviewee, they may also think that they are going to be 'judged' by their peer or family group; again something with which they might not be comfortable. This may also present ethical challenges; for example the perspectives of the peer or family group of the 'instigator' may be negative, or be made more so through the group process. It is envisaged that some ground rules for the discussions in the social reference groups may be necessary.

Aside from these psycho-social difficulties, there may also be practical difficulties. Spatial patterns are considerably different in current society than they were a few decades ago when family and friend groups were more distinctly spatially located. Today, family members may live on opposite sides of the world and friends may be kept up with via electronic communications rather than in face-to-face meetings. All this presents a greater challenge to the research as it is currently conceived.

These are, however, general trends rather than absolutes and within my study area there are still likely to be strong spatial communities. The pilot phase will help to determine how feasible this will be in practice. I have chosen Bristol as the study area for the pilot study for reasons of practicality and convenience. I will also investigate the possibility of using visual and/or audio-visual materials within my interviews and social reference focus groups, both for the purpose of making the research potentially more engaging for participants, but also to generate a wider range of discussion points.

### **8b) Phase 2 – Qualitative (Part A)** (Questions 2, 3 & 5)

This phase of the research will involve conducting semi-structured interviews informed by the exploratory pilot phase 1. This method has been chosen both for the ability to retain some comparability between interviews but also to give participants greater freedom to express themselves than is possible within the confines of a structured interview (May, 2001: 123). The participants in this phase of the research will be ‘instigators’ (initial interviewees), comprised of adult male and female members of the local Cardiff/Penarth communities who participate in cycling.

### **8c) Phase 3 – Qualitative (Part B)** (Questions 4 & 5)

The second part of the qualitative research will use the social networks of people involved in Phase 2, the ‘instigators’. A selected number of ‘instigators’ who seem particularly engaged with the research project will be invited to take part in part B. Again, since this is a novel methodology, I do not have a precedent for numbers of initial participants who might be willing to engage with phase 3 of the research, and envisage that the key barrier may be recruiting the people willing to provide contact details of their friends, family or work colleagues.

The only resources available to me are my time and a very small amount of funding via iConnect to give participants a modest amount of recompense for their time (approx. £5 – £10 per participant). Participants will be asked to provide a list of contact details (email addresses and/or telephone numbers) of people they know; either work colleagues, friends and peers or family members, or potentially a mixture of all three. I anticipate that this will be a significant amount to expect of research participants, not only that they give up an hour or more of their own time to take part in the study, but that they are also prepared to give me contact details of a wide range of people that they know.

Therefore, the anticipated people who will be approached to provide contacts for phase 3 of the research will be those who are most interested and engaged with the project. As Oakley notes researchers need to be aware and mindful of the demands they place upon research participants who may not gain any benefit (apart from the small sum mentioned above) from the research process (Oakley, 1981). The contacts given by the ‘instigators’ will then be contacted and invited to participate in a social reference focus group, to discuss the instigator’s cycling behaviour in depth and establish whether this has had any influence on their own travel behaviour patterns.

One key factor I would like to investigate at this point is the idea of a behaviour (in this case cycling) entering into a person's consciousness due to a friend/colleague/family member participating in it. The Women's Design Service, in their 'Cycling for Women' project with 10 London-based women, found that women involved in the project spontaneously mentioned how they felt they had impacted on other people they knew. One participant stated: 'All my friends have reacted to it and are now interested in cycling' (WDS, 2005).

#### **8d) Phase 4 – Secondary Quantitative (Question 1)**

Two separate quantitative research projects will be carried out by other researchers in the case study area during the research time frame; an iConnect pre- and post-Connect2 intervention questionnaire and a Sustrans route-user monitoring study (these have been reviewed and revised via the iConnect project). Depending on the exact timescales of these two initiatives I will be able to use either/or both to determine changes in rates of cycling and also differences in the composition of cycling groups. There are also possibilities for me to have access to some of the quantitative data generated by the Cycling City and Towns evaluation (although this will be from different geographical locations).

All of these data sets will have a breakdown of cyclists by age and gender and this may enable me to look across a range of initiatives to see how favourably (or unfavourably) they have impacted on levels of women's cycling. I also plan to use the sections on physical activity levels and travel diaries which are part of the iConnect survey to compare gender differences in activity and transport. These will assist in building up a picture of gender differences in cycling, and provide some quantitative data to add to the large volume of qualitative data which will be collected in the earlier stages of the research.

A key component of the iConnect project which my research will inform is work package 6 (WP6) which is concerned with communications and dissemination. Please see p25 for details of outputs envisaged. As well as the outputs from my specific PhD research project, I also hope to use my communications experience to assist on WP6 with wider dissemination of the broader iConnect evaluation of Connect2.

#### **8e) The sample**

I anticipate undertaking 20 – 30 in-depth, semi-structured interviews with adult (18 and over) individuals who have self-identified themselves as regular cyclists (3+ trips per week). The rationale for selecting regular cyclists is to investigate how they might influence other people whom they know well. For this to occur they will need to have a social status as a 'known cyclist'. Social relations between girls and boys are different than those between men and



women who are (largely) self-determining and who may be influenced by others from a position of relative power. There are further complications in researching social influence with those under 18, who are not autonomous. For example, no matter how influenced a child is by the cycling of their peers, if their parents have restricted their movements due to perceived danger, they will not be able to ride a bike themselves. Therefore, I have decided to focus my research on adults in this study.

Approximately half of the interviews will be with males and half with females and I would like to achieve a fairly wide age spread within this. However, cyclists do tend to be clustered amongst certain age groups in this country, so it may be difficult to locate suitable older cyclists and older female participants in particular. The sample will not be representative of the wider population. The numbers of interviews envisaged are a balance between gaining a range of perspectives on the topic under investigation and the pragmatic considerations of the researcher's resource constraints. As Mason states: 'qualitative samples are usually small for practical reasons to do with the costs, especially in terms of time and money, of generating and analysing qualitative data' (Mason, 1996).

Studying gender issues in cycling by focussing solely on women participants is perhaps to miss a key part of the story as Øyen states: 'no social phenomenon can be isolated and studied without comparing it to other social phenomenon...' Understanding and explaining the nature of qualitative variation is a process which cannot be accomplished without previous reflections on similarities and dissimilarities underlying the variation (Øyen, 1990). Analysing the different qualitative patterns in men's and women's approaches to cycling is then of importance for this study.

#### **8f) Sample strategy**

The interviews will be conducted at mutually convenient public locations such as cafes, meeting rooms and community centres in the Cardiff and Penarth areas. Participants will be recruited, using a purposive sampling strategy, via local bike shops, local employers and directly via flyers left on bikes parked in the study areas. There are a number of bike shops (Treadz, Reg Braddick Cycles, The Bike Shed & Damian Harris) and cycle hire centres (Pedal Power) in the Cardiff/Penarth area where I will be able to leave leaflets advertising the study and encouraging participants to contact me.

Having contacted a local bike shop their advice was that leaflets were the best method of reaching their customers since they do not maintain a mailing list of customers or use their

website to interact with customers regularly. I will also contact participants via the large employers which are located in the Cardiff Bay area, such as: Cardiff Council (County Hall, Global Link Building, Willcox House, City Hall and the Road Safety Centre) Wales Millennium Centre, International Sports Village, and potentially supermarkets, Universities and other employers, depending on response rates.

A purposive or criterion based sampling strategy has been decided upon due to the low numbers of people in the specific category which is of interest in the study. Cyclists themselves are 'rare' in the overall transportation mix, and regular women cyclists, as has been noted, are available in even lower numbers. Therefore, a homogeneous sampling technique, deliberately targeting regular male and female cyclists will be employed (Ritchie et al., 2003).

### **8g) Justification of methods**

In this particular study perhaps the most important advantage of focus groups is that they allow groups of people to dissect an issue which affects everyone and which is arguably a product of culture and lifestyles. The forces for behaviour change often lie in group cultural shifts rather than individual processes. Tonkiss argues that focus groups "capture the inherently interactive and communicative nature of social action and social meanings, in ways that are inaccessible to research methods that take the individual as their basic unit of analysis" (Tonkiss, 2004: 198).

Data from the first stages of the research would be difficult to collect via a quantitative approach using a survey instrument, as much of it is exploratory in nature, and concerned with how participants perceive their own transport behaviours. Quantitative data will be analysed at stage four of the research process, which will involve using secondary quantitative data to assess (triangulate) the broad picture of changes in cycling due to the Connect2 intervention and to assess gender dimensions.

### **Experience of methods**

I have experience of both interviews and focus groups from my undergraduate and master's degree dissertation research. I believe I possess some of the qualities which are useful when choosing qualitative methods such as these, namely; an enquiring mind, adaptiveness and flexibility, social awareness and the ability to listen actively and carefully to participants (Robson, 2002). I have also taken a number of modules in research methods relevant to these (and other) methods; Research Practice, Research Methods,

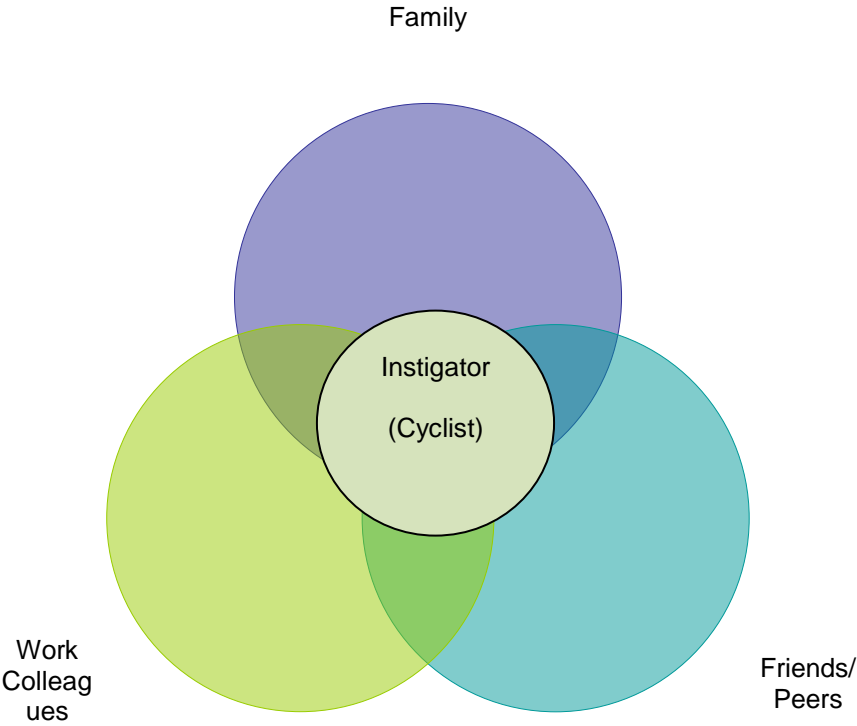
Claims and Debates and Researching Beneath the Surface. The first three modules are offered by the Faculty of Environment and Technology as part of the Masters in Applied Social Research, whilst the latter is offered by the Faculty of Health and Life Sciences and is an introduction to using psycho-social techniques in interviewing and other methods, using a more in-depth, person-centred approach to qualitative research. The skills and knowledge gained from these courses and prior experiences will assist me in this current (and hopefully future) research project(s).

#### **8h) Social reference focus groups**

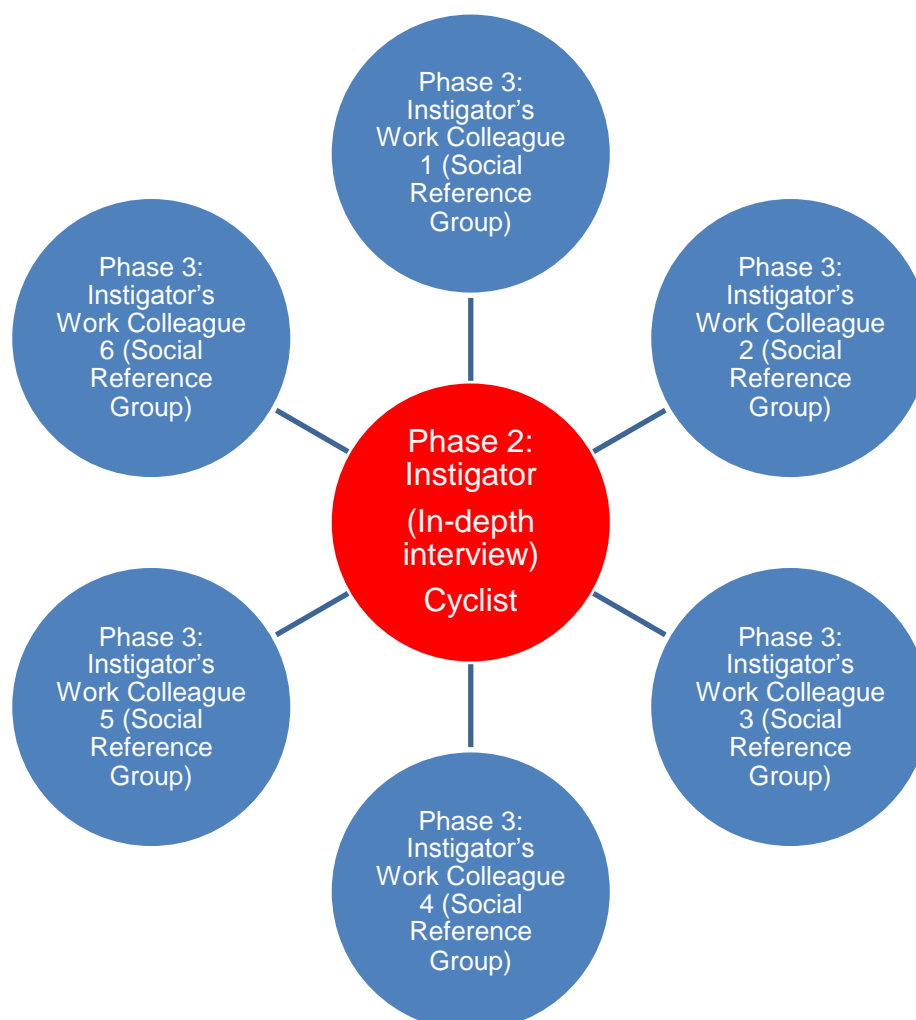
I propose to ask the initial participants (instigators) to help me recruit people who know them to take part in focus (or more properly social relations/reference) groups. These could be composed of work colleagues, friends or family, as demonstrated in Figure 1 (p35). I would like to have a range of groups composed of either colleagues, friends or family, but will test the feasibility of this at pilot stage, since pragmatically I may need to have groups which include all of these types of social contact. Five to ten focus groups are envisaged for the Cardiff data collection phase. The process of phases 2 and 3 of the research methods are depicted in Figure 2 (p36).

The purpose of these social reference groups is to investigate participants' thoughts and feelings about the person they know who is cycling (the instigator) and to determine mechanisms of influence. If gaining access to a number of the instigator's contacts at the same time proves too challenging, I shall interview them individually. The instigator will not be present at these sessions, as I feel that this may make both them and their contacts uncomfortable and result in a lower quality of data.

**Figure 1:** The social influence spheres of the instigators to be interviewed in phase 2 of the research.



**Figure 2:** A visual depiction of phases 2 & 3 of the research process.



The purpose of the group discussions is to explore participants' views about cycling, how much they themselves cycle, if they would consider it in the future and also what they think about the cyclist they know. For this, Phase 3 of the research, both the instigators who are asked for their contacts and the social reference groups will comprise both men and women. Ideally I would like to have some groups composed entirely of female friends, family and colleagues and some of male, but in practice this may not be achievable, since it will depend on the number of contacts given by the instigator who are willing to take part in the research. I am interested to see if any differences can be seen in how men and women view cycling and the perceptions they have of the person cycling.

I am also interested to see if the participants in the social reference groups are aware of a wider set of beliefs about other issues connected with the environment or health. Is their

behaviour influenced by cyclists they know and in what ways? If I were planning to undertake focus groups, I would envisage 6 – 8 groups, each with 6 - 8 participants, since this approximate number is considered optimal in focus group research (Krueger & Casey, 2000). However, as my participants will be more of a social reference group rather than a true focus group, these conventions and parameters do not necessarily apply. I plan to search the research methods literature carefully to uncover any examples of similar research and determine the strengths and weaknesses of differing approaches which have been used. As far as I am aware, this is a novel research methodology, certainly within the transportation research field.

#### **8i) Data collection & analysis**

The taped interviews and focus groups will be transcribed in full by the researcher personally and then entered into NVivo8 to help with the analysis of the data. I intend to use an interpretive and flexible approach to the data analysis which uses some coding, but also relies on the researcher's interpretation of the texts and ascribing meanings to those texts (Robson, 2002: 458). I will keep a detailed log of the data collection phase of my research which will include both practical details of all interviews and focus groups, but also learning notes regarding the issues, concerns and successes that arise during the data collection. This will refer only to participants' pseudonyms. For a wider consideration of the ethical issues pertaining to this research project, please see Appendices 9 & 10 (pp 83 & 89) (Faculty of Health & Life Sciences (FH&LS) ethics application and approval letter).

## **9) Changes since RD1 stage of PhD**

The research design and strategy described above is considerably different to that presented at RD1 stage. The reasons for these changes are related both to my personal interests and capabilities and also to what was happening in the wider world of cycling research. My previous research experience has involved using qualitative research approaches and methods. When starting this research project I was attracted by the idea of using a mixed methods strategy, enabling me to both build on my qualitative strengths and to increase my confidence in quantitative methods.

For this reason I proposed devising a survey and then using interviews to investigate issues which were not explained by the former. I spent a considerable amount of time participating in the group process devising the iConnect survey instrument, which involved teleconferences to draft and test the questionnaire with family members and friends. This was an extremely useful process which taught me a lot about the complexities of designing such a survey instrument.

It transpired, however, that the area which I had chosen to undertake my field work was also chosen by the wider iConnect Consortium as one of their 5 case studies. In addition, Sustrans use the area to conduct their route user monitoring survey every year. I also found out that the Cycling Cities and Towns research was going to be using a large scale survey. I felt that I was in danger of producing quantitative work which would be not only of a lesser standard to other more experienced and well-funded initiatives but which in this context was unlikely to be 'novel' enough to warrant the conferring of a doctorate.

Therefore, in light of these concerns, I have devised a more qualitative research design, which suits my strengths but also utilises the wealth of secondary quantitative data likely to be available to me. This research design is still a mixed methods design in that it incorporates both qualitative and quantitative data, but the primary focus is now on qualitative methods, within a critical realist research framework. I believe these methods are best suited to investigate the reasons behind gender differences in cycling.

## 10) Data collection process: the Exploratory Study in action

In total, eight interviews and two focus groups were conducted for the exploratory study, in Bristol, between April and September 2010, as detailed below:

### 10a) Data collection record of interviews & focus groups

Pseudonym	Date	Location	Type	Age	H'hold Income (£)
Tristan Evans	29/04/10	Bristol Uni	WP	37	50,000+
Kay Owens	05/05/10	Redland	H	51	15,000 – 29,999
John Chancer	21/05/10	Clifton	PP	34	50,000+
Toby Hislop	25/05/10	BRI	WP	42	50,000+
Lucy Minty	23/06/10	Filton	H	26	30,000 – 49,999
Ellen Fowler	30/06/10	Bishopston	H	55	30,000 – 49,999
Molly Jenkins	19/07/10	Westbury	H	61	30,000 – 49,999
Catherine Church	09/09/10	Cotham	H	49	30,000 – 49,999

Lucy's friends x 5 (FG)                      29<sup>th</sup> June 2010                      Horfield  
(Sarah Ubley, Hayley Carter, Ellie Prescott, Amber Little, Jane Potter)

Molly's friends x 3 (FG)                      3<sup>rd</sup> Sept 2010                      Westbury-on-Trym  
(Adam Garrett, Kirsten Holme & Paula Krisp)

A reasonable gender and age spread was achieved, especially considering that there are fewer women and older people who cycle. Out of the eight interviews, three were men and five were women, whilst in the focus groups seven participants were female and one male. Since the study has a particular focus on women's cycling, this gender disparity can be seen at best as a positive advantage and at worst as no particular disadvantage, though in the main data collection phase care will be taken to achieve a more even gender split. In terms of age, six participants were in their 20's, two in their 30's, three in their 40's, four in their 50's and two in their 60's. Again, this ensured that the perspectives of a range of people of different ages was represented and achieving a similar age spread will be a goal for the Cardiff data collection phase also.

Class was not asked for as a specific category on the mini-questionnaire, but most of these areas, such as Clifton, Bishopston and Westbury-on-Trym, tend to be the more affluent areas of the city. Some measure of affluence may be gleaned from the household income which was requested on the mini-questionnaire. This produced results in all of the categories but the most frequently circled were £30,000 - £49,999 & £50,000+. As the research progresses to the main data collection phase in Cardiff, it is anticipated that this level of affluence may change.



Throughout the timeframe of exploratory study, the researcher became better at managing the data collection process, both in terms of interviewing skill and ease with the material, but also in terms of familiarity with the paperwork process. The actual steps which were involved in recruiting, interviewing and rounding off with participants are outlined below. This is the end process which will be taken forward to use in Cardiff and researcher efficiency and capability has improved considerably during the Bristol Exploratory Study phase.

#### **10b) Research process stages**

- 1) Researcher places flyers in workplaces and bike shops
- 2) Participant picks up flyer and contacts researcher to express interest (usually by email)
- 3) First response – researcher sends formatted email thanking participant for interest, attaches an information sheet which outlines anonymity, risks and benefits of the research (Appendix 1, p60) and asks for an indication of when & where an interview would be convenient if the participant is happy to proceed to this stage.
- 4) Response from participant & usually subsequent one or two email contacts to determine the exact time, date and place on which the interview will take place, which is at the convenience of the participant.
- 5) Interview: The researcher first goes through the paperwork in stages;
  - a) researcher checks that the participant both received and read the information sheet and, if not, another hard copy is given
  - b) researcher gives participant the voucher (incentive) and the pack of cycling maps & information (a £5 or £10 voucher and a pack of cycling information which for the Bristol exploratory phase consisted of; Bristol City cycling map, Cycling City cycle training voucher, LifeCycle leaflet, CTC leaflet and Sustrans leaflet).
  - c) Researcher asks the participant to sign the consent form (Appendix 2, p62) which gives permission to digitally record the interview amongst other items and also has an optional tick box for those who would like to receive a short summary of the research after it is finished (1 copy for researcher, 1 copy for participant)
  - d) Researcher asks the participant to fill in the mini-questionnaire (Appendix 3, p63) which has eight items; contact details, age, gender, household income and how the participant heard about the study.
  - e) The researcher turns on the two digital recorders (after trying various types of digital recorder and ways of borrowing them it was felt necessary to purchase a recorder for the project. Problems were encountered with being able to borrow digital recorders for sufficient periods through the faculty process as the time period for data collection was long

and also unpredictable. Some difficulties were also found with the recorders supplied not always having instructions and project staff not being able to assist with their usage). One back-up Olympus VN-1100 recorder was given to the researcher and the main Sony ICD-UX200 was purchased via FH&LS. This dual system worked well and ensures that no data is lost due to functioning difficulties with one of the recorders or by batteries running out part way through an interview, as has happened on several occasions. Early on in the exploratory study a valuable lesson was learned when the researcher did not use one of the recorders properly, as it was not intuitively easy to operate and so the machine did not record the interview. Thankfully the back-up recorder had been used from the outset and so the interview was captured on this and so the data was not lost. The researcher later learned that other colleagues had also experienced the same problem.

f) A moderator's guide was developed for the interviews (Appendix 4, p64) which reminded the researcher about necessary paperwork, key practical details to check and had a question schedule. This schedule was fairly loose, in accordance with a semi-structured interview of this nature, with a question theme written in the left-hand column and specific questions within each theme on the right-hand side. The researcher used these questions as a guideline, so that not all questions were asked to each participant, and the questions were not necessarily in the same order. This was to allow flexibility, since some participants were voluble and gave details pertaining to later questions when asked about an early one. Also, it gave the researcher the freedom to follow up on an interesting or unusual thread which a participant mentioned. Again, the themes and questions were changed, refined and added to in an organic way throughout the exploratory study process, as things occurred to the researcher or were discussed in supervision meetings. For example, after a few interviews were conducted, a gap seemed to emerge around the specific types of cycling infrastructure which participants thought were helpful to them (or not), so this was added as a theme in the moderator's guide. Eight themes were eventually decided upon; early/childhood cycling, current cycling & social influence, multi-modality, gender, cycling with children, barriers & enablers, influence on others and types of cycling facilities. These areas were determined by the research aims, objectives and questions, but were revised over time, in line with flexible research design strategy.

g) During the interview, whilst the theme of current cycling and social influence was being explored, the participant was invited to draw a 'social map' showing both the encouraging and discouraging social influences upon their cycling. The purpose of the social map was to illustrate the kind of social backdrop to the participants cycling behaviour and the type and degree of encouraging and discouraging social influences which were present. An example is shown in Appendix 7 on p81. This became the third item which the participant was asked to fill-out.

h) At the end of the interview the participant was invited to ask any questions of the researcher or to share any further experiences about their cycling which they did not feel had been fully covered in the course of the interview. After this the digital recorders were switched off and the interview brought to a close. The participant was then introduced (if they had not previously been) to the second stage of the research – the social reference focus group. They were invited to receive some more information by email about this stage so that they could decide if they wished to take part or not.

i) The researcher wrote brief notes about the interview in the research reflexive diary. These notes were concise and covered factors such as practicalities and problems to do with the location of the interview, initial impressions about the participant and any key or novel things which struck the researcher in the course of the interview. A typed up example is given in Appendix 8 on p82. These notes assisted the researcher in three main ways; to help quickly identify participants from each other, to help identify key areas of interest to be thought about ahead of or during analysis and to establish whether there were any problems with the interview format or conditions so that they could be improved upon or problems avoided in future sessions.

j) On the day of the interview or as soon as possible afterwards when the researcher next returned to the office the following was carried out: the research reflexive diary was placed in a locked drawer and the paperwork from each participant was checked for any missing details or inconsistencies, then each was filed in a separate plastic wallet and again filed in a locked drawer. An interview schedule was added to after each interview which gave each participant a pseudonym and this was kept separately to the paperwork files. The interview itself was downloaded onto the researcher's laptop and the file backed-up at two other locations, the researcher's own external hard drive and the researcher's H drive. The H drive is backed-up by UWE IT services, so in the case of any problems data can be retrieved. This was later transcribed and both the audio file and the transcript were uploaded into NVivo8, ready for analysis. Once these back-ups had taken place the interviews were erased from the digital recorders.

k) On the day following the interview or as soon as possible afterwards any participants who had expressed interest in taking part in Stage 2 of the research (the social reference focus groups), were emailed with some information about the process. This process was refined over time and by the time data collection commenced in Cardiff an initial email and a system of reminders had been devised.

l) If the participant did decide to proceed to the focus group stage then an email was sent to the participant to send to their contacts (in the case of Molly) or they sent an email to their contacts so that I then had their email addresses and could follow up with them (in the case of Lucy). Two people decided to proceed to focus group stage, which since there were

eight initial interviews and two focus groups, was a conversion rate of one in four. Once the focus groups were arranged with the participants contacts the process was similar with information sheet, consent form, mini-questionnaire, reflexive diary and recording procedures. One key difference was that focus group participants were not invited to draw a social map, but were instead asked to look at a series of images of cyclists and prompted to talk about what they thought about them and whether they identified or didn't identify with any of them. Focus group participants were each given a cycling information pack and a £5 Waitrose voucher also, as detailed earlier.

### **10c) Data management**

The researcher was unsure as to the best way of managing the data, both for security in terms of ethics and anonymity and also to ensure that the data would not get lost or corrupted. A training session on data management, as part of the Research Students Training Day, was attended in June 2010 with the Director of the FH&LS Graduate School, whereby the current best practice in this area was discussed. The procedures which were recommended at this session were largely followed and are outlined where relevant throughout this document. An image showing the data management processes as discussed in the session can be found at Appendix 11 on p90.

### **10d) Ethical implications of the study**

Ethical approval for the research project was sought via the internal Faculty of Health and Social Care Ethics Committee in August 2009. This was granted on 29th September 2009. The ethics application form and approval letter form Appendices 9 and 10 respectively on p83 & 89. There were no distinctive ethical implications of this study as no vulnerable groups were being studied and the subject matter is not thought to be particularly divisive or controversial. However, as in all research, care needs to be taken to consider potential areas for concern and to ensure that the risks of harm to both researcher and participants are minimised. For this project this mainly involved three areas; telephone buddying, participant confidentiality and informed choice.

Much of the data collection took place in participants' homes and consequently there may be risks associated for the researcher who will be going alone (in the case of interviews) into a stranger's house. Consequently, a phone buddying system was devised as a safeguard to protect the researcher. This involved the researcher informing the buddy in advance of the time and date of the interview, telephoning just before going into the participant's home and then calling the buddy again after the interview had finished so that they knew that nothing out of the ordinary had occurred. If the researcher did not ring at the

allotted time, the buddy was instructed to try and ring the researcher and if they could not get through, to telephone the researcher's husband who would then take any necessary action.

Initially it was envisaged that the researcher's supervisors would be the phone buddies, but in practice this was found to be unworkable, since the supervisors had too many commitments upon their time and were consequently not always available at the allotted time for the phone buddying, despite their best efforts. Therefore, colleagues in the same office at the Centre for Transport and Society were asked to perform the phone buddy role. Eight other researchers work in this office so at least one of them and often several are available at any one time to perform the buddying role. This arrangement worked well and so will be continued for any such occasions during data collection in Cardiff. When the interview or focus group took place in a public building, such as a participant's workplace or a hired meeting room, this arrangement was not used as it was not deemed necessary.

Participant confidentiality was given a high priority and the measures put in place to do this have been outlined previously in the data collection process section and in the ethics application form (Appendix 9, p83). Briefly, anonymity was mentioned to participants in the information sheet (Appendix 1, p60), consent form (Appendix 2, p62) and at the start of the interview. Paperwork from the interviews was kept in a locked drawer in a locked office in Q block, which was only accessible to fellow Centre for Transport & Society research staff. A data collection record of the interviews and participants pseudonyms was kept separately.

All transcripts and audio files were given the pseudonym when stored on the computer or in NVivo8 data analysis package and any dissemination materials such as reports, presentations and papers used the pseudonym also. Audio files were promptly deleted from digital recorders, in case anyone should overhear them, particularly in the case of borrowed equipment. As a further precaution, since the topic involved the participants talking about family members, friends and colleagues, these were also changed to pseudonyms where it was thought appropriate, in case the name or circumstances described were revealing of identity. This was done by the researcher reading through all transcripts and simultaneously listening to the audio files. Any distinctive names were changed to pseudonyms, especially in the case of close family members. However, the social maps (Appendix 7, p81) which participants produced as part of the interview process have been and will be used in dissemination from the study, such as presentations. The names of the participants are removed or changed to their pseudonyms but it is clearly unfeasible for the

researcher to try and change all of the names of any contacts who they have written down, so for this particular example a small degree of disclosure is involved.

The researcher also took care to ensure that the participant was making an informed choice about the research at all stages. This was perhaps more critical as the research had two stages. All participants saw an initial recruitment poster (Appendix 12, p91) or email which gave brief details about the study. When they contacted the researcher they were then sent an information sheet (Appendix 1, p60) which gave more detail about the research process. At the start of the interviews participants signed a consent form (Appendix 2, p62) which explained to participants that they were free to withdraw from the study at any point if they so wished, although no participants have so far chosen to do this. The nature of the second stage of the research involving the focus groups was mentioned to participants at the end of the interview and then followed up with an email containing more details. All of the social contacts of the initial participant were also given the same level of informed choice throughout the research process.

## **Data Analysis**

The researcher started the project with little qualitative data analysis experience. Whilst a previous Masters degree had used a methodology largely based on focus group interviews these had not been systematically analysed. Transcripts from the focus group interviews had been written up, were read through and then quotes were used which reflected a balance of opinions from the groups. This provided a good fit in many ways with the data as it was gathered, since the format was deductive and the questions were largely structured around participants views of a number of solutions to the environmental impacts produced by the current volume of air travel. Since this current project was different in both its research design & methodology, it was unclear exactly what the best approach would be to analysing the data.

A review of the literature on qualitative data analysis provided a somewhat confused picture with a number of rather oblique references to coding. At times Pauline Bart's amusing quote 'Data, data everywhere and not a thought to think' seemed rather apt. It was decided to use the computer analysis package NVivo8 to store, catalogue, code and produce outputs from the material. There are a number of such products available but NVivo is both widely used the one which UWE as an institution subscribes to and supports in the form of training days through the RBI. Therefore it seemed prudent to use this package rather than another. One of the advantages of this for my particular project is that data in a number of formats can all be stored together in NVivo8. Original audio files, transcripts, typed-up reflexive diary notes and the social maps as image files have all been imported into NVivo8.

The analysis, could, of course, have been accomplished without the aid of any software, by simply relying upon the tried and tested method of paper-based analysis. This would have involved using a set of printed off transcripts which were then highlighted in a series of different colours and then cut out, separated into files and then re-connected into 'themed' piles or sections. These can then be posted up onto large pieces of flipchart and moved around by the researcher until they are happy that they have satisfactorily clustered or grouped the information together in meaningful ways. In either case, whether paper-based or computer-aided, the method is simply a tool which the researcher uses to enable 'pattern recognition' (Luker, 2008: 199). The researcher needs to detect such patterns.

NVivo was chosen for four main reasons; volume of data, variety of data, enhanced functionality and researcher development. Although the Exploratory Study was not a huge endeavour it did still generate a considerable amount of data. The eight interviews and two focus groups averaged 55mins, which when transcribed ranged from 5,500 – 10,800 words

per transcript. This was a substantial amount of material to try and assess via piles of paper. In addition, as this was the first stage of the project, with further data collection to take place in Cardiff, which might amount to 20-30 interviews and 5-10 focus groups, a much more substantial amount of data was yet to come. It was felt important to try and keep consistency in data analysis approach between the Exploratory Study and the main phase of data collection if practicable.

As has already been mentioned there was quite a variety of formats across the data set, with audio files, word-processed files and image files. NVivo8 provided the opportunity to store all of these together and to use several formats simultaneously, such as listening to an interview whilst reading the transcript. In terms of functionality the computer package provides the option for coding in various ways which can be hierarchically structured or not, instant access to lists of codes which can be printed off and a variety of output formats which enable the viewing of the data in various ways.

The final reason for choosing NVivo8 was as a learning and development opportunity for the researcher who had not used a package such as this previously. As computer-aided qualitative data analysis is becoming more prevalent there was a high likelihood of being asked to use it in future research roles and not having to be trained to use it beforehand would be an advantage to a prospective project leader. The downside of this choice was time spent in learning NVivo8. Whilst training had been undertaken in the package it had been around two years ago and also on the previous version of the software, NVivo7. Therefore, the researcher learned more or less from scratch, using a colleagues' Introductory Training Workshop Handout and also with the aid of the online tutorials provided by QSR, the company who make NVivo. This was satisfactory for basic use of the package and a 2-day RBI NVivo8 training course will be undertaken in Nov/Dec 2010 to ensure that the researcher has a full knowledge of the programme in time for analysing the Cardiff Phase 2 & 3 data.

The full data analysis consisted/will consist of the following steps for each data collection item:

- Initial thoughts on the content (amongst other factors) of the interview or FG were written up into a reflexive diary; these were then written up and added into NVivo. An example is given in Appendix 8, p82.
- All of the audio files were listened to initially to gain further impressions about the data.



- The interviews & focus groups were then transcribed. Just over half (6) of the transcripts were completed by the researcher personally, whilst the rest (4) were transcribed by a professional transcription company to save time. The latter were thoroughly checked and any missing words or inaccuracies corrected. They were also formatted in the same way as the others so that when uploaded into NVivo they were standardised. The level of detail of the transcripts was high, with the text written largely as the participant spoke it, complete with ums, ers, pauses and descriptions of emotional moments such as laughing or sounding puzzled or unsure. The sentences were not neatened, but left as spoken. Although this makes for a longer transcript this level of detail was thought important for an exploratory study such as this with the emphasis on sometimes subtle shifts in meanings.
- All of the transcripts were then read through and fully anonymised (making sure that any distinctive names of social contacts were removed so that there was little chance of the participant being identified).
- An inductive, open coding structure was developed, along thematic analysis lines (Braun & Clarke 2006). A total of 372 open codes (nodes in NVivo) has been initially made, encompassing such items as (importance of good driver behaviour, enjoyment of cycling speed and power, women cycle slower and dislike of others running red lights). This encompassed both the interviews and the focus groups.
- The codes will next be tidied up to remove duplicates, collapse similar themes into each other and develop broader themes which can then be developed into a thematic map and then conceptual framework of the research. As Braun and Clarke describe this process it 'involves the searching across a data set...to find repeated patterns of meaning' (Braun & Clarke 2006: 86). Luker describes it as 'pattern recognition', which gradually comes from the 'noise and discomfort and disorder of our very first batch of data' (Luker 2008: 199).

## **Discussion and Conclusions**

Whilst the analysis is not yet complete for the Exploratory Study, a number of items have already emerged from the data, and will be discussed here. Their implications for the ongoing study and how the project will be taken forward are then summarised.

One of the initial findings, around social influence, is that most of the 'egos' who were interviewed have a highly encouraging social context to their cycling behaviour. It was anticipated that this would be a balanced picture with a range of both encouraging (positive influences to their cycling) and discouraging (negative influences to their cycling). However, these are strongly positive, with participants often finding it difficult to think of negative or discouraging influences either in discussion during the interview or when drawing the social map. Prompting sometimes elicited some of these, but the patterns overall were distinctly positive. For an example social map which demonstrates this asymmetry, see Appendix 7, p81). In thinking and discussing this tentative finding (and providing that the underlying assumption is actually correct), a number of potential explanations have suggested themselves and these will be explored further with the new Phase 2 & 3 from Cardiff.

The simplest explanation may be that only those who have a pre-disposing social circle of influence / social norms do in fact cycle. Those who do not, whose social circle contains largely those who view cycling as a dangerous or pointless activity, perhaps simply do not cycle. Of course the degree of influence which the social circle or prevailing social norms may have upon people is variable and perhaps those with a more individualistic mentality may also be among those choosing to cycle. It is acknowledged, however that people often under-estimate the degree to which their social contacts do influence them and believe themselves to act in a much more individualistic manner than they actually do (Nolan et al., 2008).

Another potential explanation may be that participants may selectively remember many more positive influences rather than negative. A psychological rationale for such behaviour comes from the principle of cognitive dissonance, whereby two conflicting ideas held simultaneously cause mental discomfort. So information which does not fit with a person's worldview may then be actively left out of that person's field of reference. In terms of cycling it may be that to cycle even if you had a circle of people around you who are actively discouraging of cycling might be perceived as a difficult or silly thing to do. So, rather than acknowledge that this is the case, it may be easier to forget the negative influences which surround you.

A final suggestion is that it may simply lie with the data collection technique, which may perhaps be poor or the wrong mechanism with which to fully investigate such data. As previously mentioned the methodology, including the use of social mapping, is novel in the transport field.

There seem to be gender differences emerging also in terms of style of cycling (both the level of confidence/aggression displayed and the speed and pattern of it), perceived levels of personal and traffic safety, tolerance of other road users and desire for different types of cycling facility. I also intend to investigate these differences between men and women and their cycling and reach some conclusions around these patterns once all the data has been collected.

In terms of taking this project forward the researcher has demonstrated that this methodology does seem to be a feasible, though challenging way of collecting data about this important and not fully comprehended area of travel behaviour. Many lessons have been learned over the timeframe of the Bristol Exploratory Study (Phase 1), over recruiting and liaising with participants and the level of trust and persistence necessary to progress to Stage 3 of the research process. Skills have also been developed and extended around data collection and analysis, such as learning to use NVivo and the different ways to approach qualitative data analysis.

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## Appendix 1: Information Sheet for participants

### Information sheet for participants



University of the  
West of England

Faculty of Health & Life Sciences  
School of Health & Social Care  
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Bristol, BS16 1DD

T: 07963 831882  
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### Study title: Cycling experiences, Bristol

#### Invitation to take part:

This information sheet gives you more information so that you can decide whether or not you would like to take part in this research project, called 'Cycling experiences, Bristol'. This research will be undertaken as part of my doctoral research (PhD) in the Faculty of Health & Life Sciences at the University of the West of England in Bristol. For more information about the Faculty or the University please see: <http://www.uwe.ac.uk/hsc/>

#### What is the purpose of this study?

This research is interested in peoples cycling experiences and also whether there are differences between men and women in how much, where, and how they cycle and if so, why are there differences? I will be using interviews in my research, both individual interviews and group interviews, also known as focus groups. I hope that my research will help cycling groups and policy makers aware of how they can best encourage men and women to cycle more in the UK.

#### Why have I been chosen?

You may have contacted me after seeing a flyer either in a bike shop or in your place of work. Or your details may have been passed on to me by someone who already cycles who knows you. I am interested in talking to you about your experiences of cycling or about people you know who cycle.

#### Do I have to take part?

No, you are under no obligation to take part in the study if you do not wish to. If you do agree but then decide you don't want to take part after all, you can contact me and I will make sure that any information you have given is not included in any analysis or written work.

#### What will happen to me if I take part and what do I have to do?

I will invite you to take part in either an individual interview (at a mutually convenient location such as a coffee shop or your workplace or home) or in a focus group which will involve around 4-6 other people (at a local community centre/meeting room). Both the individual and the group interviews are likely to last no longer than an hour. In recognition of the time you have given to the research, I would like to offer you a £5 or £10 voucher. As a thank you for taking part I will also provide cycle maps and route information for the Bristol area.

What are the possible disadvantages and risks of taking part?

I will keep any information you give me in the interviews confidential. In the group interviews, there will be other people present, and whilst they will be asked to keep all information confidential also, there is always the chance that they may not do so and I cannot prevent this. There is one instance in which I would potentially break your confidence: if you were to tell me about a serious criminal offence I may consider reporting it, but would tell you in advance and give my reasons for doing so. You may feel annoyed or upset by the views of others in the group interviews but as the subject matter will not in general be that personal in nature, hopefully the chances of this are small.

What are the possible benefits of taking part?

You may find the individual or group interview enjoyable and may enjoy discussing your cycling experiences or those of others. I hope this research will help to encourage more cycling generally, which could have many positive effects for people & society. There is a box on the consent form for you to tick if you would like to receive a summary of the research findings and I would also like to write some pieces for the local media which you may see in the press.

What if something goes wrong?

If you are concerned about any aspect of the research or would like to make a complaint, please contact my supervisor, Dr Jane Powell on [jane.powell@uwe.ac.uk](mailto:jane.powell@uwe.ac.uk) or 0117 328 8752 or write to her at: Faculty of Health & Life Sciences, University of the West of England, Glenside Campus, Blackberry Hill, Bristol, BS16 1DD

Will my taking part in this study be kept confidential?

Yes, any information gained during the interviews will be kept confidential. When analysing and writing up any information I will give all participants a pseudonym (different name) so that they cannot be identified. Contact details and the key to people's pseudonyms will be kept separately in a locked filing cabinet. The information collected from interviews will be kept in case it can be of use to future research, but this will be anonymised.

What will happen to the results of the research study?

At the end of my PhD I will write up the results of my research into a long document called a thesis, I then take an examination about the research, called a viva. The thesis will be available via the University library when I have finished. As mentioned above, if you would like to be sent a short summary of my research findings, please tick the box on the consent form and I will send this to you. I also hope to write journal articles, articles for the media and present my findings at conferences, which I hope will give as wide an audience as possible the chance to see the results of the study. Any reference in any of these formats to statements by participants will be anonymised.

If you have any further questions or at any point you decide to withdraw, please contact me via the contact details at the start of this letter.

Thank you for taking part in this study. I hope you find it interesting and enjoyable. This information sheet is for you to keep. You will also receive a copy of a consent form, which you will sign, to keep.

Anja Dalton, 9<sup>th</sup> March 2010 (v2)

## Appendix 2: Consent Form



University of the  
West of England

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### CONSENT FORM

**Research Topic: Cycling stories: what are your Bristol cycling experiences?**

**Researcher: Anja Dalton**

Please read the following and show your agreement by placing a tick in each box which you are happy to consent to:

- 1) I confirm that I have read and understood the information sheet (dated 9<sup>th</sup> March 2010) version 2 for the above study and have had the opportunity to ask questions about the research. ☐
- 2) I understand that my participation is completely voluntary and that I am free to withdraw at any time, without giving a reason. ☐
- 3) I agree to take part in the above study and to the audio recording of any interview or focus group which I take part in. ☐
- 4) I have received a £5/£10 voucher as a thank you for taking part in the study ☐
- 5) I would like to be sent a brief summary of the research when it is finished ☐

Participant's name.....

Signature.....

Date.....

(One copy to be given/sent to participant, one copy to be kept by researcher)  
Anja Dalton, 9<sup>th</sup> March 2010 (v2)

### Appendix 3: Mini-questionnaire

#### Cycling Experiences Mini Questionnaire 1

Name:

Age:

Gender:                      Female                                      Male

Contact email:

Contact telephone number(s):

How many times per week do you cycle in an average week? (please circle):

Daily	Almost Daily	2-3 times a week	once a week
a few times a month	once a month	less/never	

Household income (please circle):

Up to £14,999	£15 - £29,999	£30 – 49,999	£50,000+
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Where did you pick up the flyer for this research study?

.....  
.....



## Appendix 4: Moderators Interview Guide (Bristol Exploratory Study)

### Checklist

Information sheets (check they have had & happy)  
 Mini questionnaires  
 Consent forms ( x 2, check, sign off voucher)  
 £5 voucher to p'pant  
 Digi-recorders x 2 (+ spare batteries)  
 Venue checked as suitable (noise etc.)  
 Pack of cycling leaflets  
 Materials: paper for social mapping exercise

### Watch out for:

Allow/encourage short silences  
 Draw links/probe further  
 Steer back from tangents  
 Watch out for contradictions/probe  
 Devil's advocate  
 Pens, Water  
 Tea & biscuits (pay for in cafes)

- 1) Introduction: Thank you for attending this interview  
 Who am I? Background? careful to influence as little as possible.
- 2) Paperwork: Information sheet – for p'pant to read, if not seen before  
 Mini-Q' – for p'pant to fill out at start of session  
 Consent form –read and sign, copy for me & copy for them  
 Interview plan/timeline  
 Permission to audio tape the session
- 3) Rules of the session: No right answers, so say what you feel
- 4) Discussion: I will ask questions but will not be offering my opinion.  
 Please ask if you don't understand a question or would like some background info. If you would like my opinion on a topic which comes up I will be happy to tell you at the end of the session.
- 5) Opener: What are your experiences of cycling around Bristol?

Questions (semi-structured, not all asked to every p'pant – explore particular interests with each p'pant)

a) Early/childhood cycling	Can you tell me when you first started cycling? Can you remember what persuaded you to start cycling? Did you cycle as a child? From what age? What are your memories of this? Did you have official cycle training, such as cycling proficiency? Can you remember different types of bike at different ages? Were there differences in the numbers of girls and boys you knew who cycled? Did you stop cycling when you became an adult? If so, when & why?
b) Current cycling patterns and social influence	When did you start cycling again (if you stopped)? Are there any people you know who

	<p>helped or encouraged you to cycle?          Could you tell me about them?          Have any others discouraged you?          Do you think there are gender differences between those who encourage or discourage you?          Do many people you know cycle too?          Are they family, friends or colleagues?          SOCIAL MAPPING EXERCISE</p>
c) Multi-modality	<p>What other forms of transport do you use regularly, apart from your bike? How often?          What do you prefer to use and why?</p>
d) Gender	<p>Do you think there are differences for women and men when it comes to cycling?          Do you think they have different concerns?          Do they cycle differently, for example, in different styles, different bikes, on different routes? Do you think they cycle for different purposes?          What could make it easier for (wo)men to cycle?</p>
e) Cycling with children	<p>Do you have any experience of cycling with children? What has that been like?          What are the enjoyments and difficulties of this?          Which, if any, particular stages were difficult?          What could make cycling with children easier for you or for other parents?</p>
f) Barriers & enablers	<p>Is there anything which would encourage you to cycle more than you do now?          What would you say are the main reasons why you cycle?          What do you find enjoyable about cycling?          And what do you dislike?</p>
g) Own influence on others	<p>What do you think would encourage more people to cycle?          Have you yourself encouraged others to cycle? How? Whom?          Do you plan to do this in the future?</p>
h) Types of cycling facility	<p>20mph zones          Cycle lanes – segregated or not?          Off road          On road, no special provision          Shared space</p>

Thank you for your time – is there anything else you would like to add?

## Appendix 5: Example contact sheet

### Interviewee 7: Ellen Fowler

From	To	Date	Format	Contents
EF	AD	08/06/2010	Email	Offering to be interviewed
AD	EF	08/06/2010	Email	Acceptance. What dates are suitable?
EF	AD	09/06/2010	Email	Next Weds, phone to confirm
AD	EF	11/06/2010	Email & Phone	Attached information sheet  Weds not suitable, suggested Mon/Tues  Phoned and left messages but didn't hear back for nearly 2 weeks.
EF	AD	23/06/2010	Email & Phone Message	Suggested the following Weds, 30 <sup>th</sup> June, at participants home.
AD	EF	24/06/2010	Email	Date is fine. Please send address.
EF	AD	24/06/2010	Email	Address sent, time confirmed as 7.30pm. What drink would I like?
AD	EF	25/06/2010	Email	Confirmation, tea please, and gave mobile number in case of any last minute hiccups.
AD	EF	30/06/2010	Verbal	Interview takes place.
AD	EF	30/06/2010	Email	Thank you for interview and invitation to take part in next stage of research – social reference focus group.
EF	AD	07/07/2010	Email	Prefer not to continue to second stage. Interested in being sent research results.
AD	EF	11/07/2010	Email	Thank you again for participating. Will send results summary.
AD	EF	August 2011	Email	<b>Remember to send results summary.</b>

## **Appendix 6: Example transcript – Bristol Interview 10: Catherine Church (9/9/10)**

**AD: Preamble about digi-recording & paperwork.**

CC: (Who is filling out mini-questionnaire) We're sort of borderline, in income I would say, we're probably £30-49k, but we're probably just £30k I'd say.

**AD: OK. I know it's quite a broad category that one. Thanks very much. So first of all I just wanted to ask you generally of a quick picture of what you feel about cycling in Bristol.**

CC: Mmm hmm. Well I think Bristol is quite a difficult city to cycle in, although the only other city, well it's various, it's two other cities technically. So it's Hereford, which technically is a city, although it's obviously actually a small market town. So that's easy. And then London, which is obviously much harder. So I don't find Bristol difficult but I would say Bristol is a very difficult city to cycle in. I don't find it difficult because I'm used to it but most parents I know refuse to cycle with their children in the city because it's too dangerous. And I would understand that because I have experienced that, how dangerous it is. But because I always cycle with the younger one and the older one cycles early in the morning before the main traffic, I sort of deal with it that way. But I do think it is, I don't think it's easy.

**AD: Hmm.**

CC: An easy choice.

**AD: No. And, um, can you tell me when you first started cycling. Did you start as a child?**

CC: Yep. Five, four, very early – I've always cycled yeah.

**AD: And did your parents teach you, do you remember learning to cycle?**

CC: No, my parents were not at all physical and, um, or active in any way. But I think I always saw cycling as a form of independence. So, um, I remember having a bike when I was three or four years old and I remember learning to cycle it myself on our drive, which was a stony drive, and having various scars, that I've still got, from that experience. So I do remember doing it and it being just a straightforward thing that you did. And also I remember always having to maintain my bikes, as I was saying to my children who are nine and fourteen. The fourteen year old still expects me to change his tyres when he has a flat tyre. (both laugh) I find it extraordinary because I remember nobody ever did any of that for me, because my parents weren't into cycling or practical. Yeah.

**AD: Yeah. And did you cycle around much with friends, or?**

CC: Yeah.

**AD: or to school?**

CC: No.

**AD: What kind of things did you use your bike for?**

CC: I used my bike to, um, get away. It was absolutely a source of adventure, independence. Um, I remember at a very young age I used to hide money in the back of my bicycle in my bicycle box. And then I'd take a little bit of food and water and hide a bit of money and I'd go off for the whole day and I'd explore all sorts of parts of the town where I lived on the Isle of Wight. That I'm sure my mother didn't know anything about and get into terrible, I mean sometimes quite dangerous situations I can remember getting into, but also really nice situations. But, um, because I was under ten, I can remember thinking, you know, that it was quite dangerous even then. It was always, that was the attraction, that you were free to go off. That's what it gave you, I suppose.

**AD: Mmm. And do you know how you sort of learned then? You say your parents didn't necessarily encourage you to, so was it that friends were doing it?**

CC: Um, it's almost certainly because all the other kids had bikes, yeah. We had very good friends up the road, although their kids all went to school privately on the mainland, in the holidays they'd come round with their bikes, and I seem to remember there were always loads of bikes in the drive. So it would almost be certain, it would almost certainly be for that reason, though interestingly I cannot remember my brothers, either of my brothers, cycling.

**AD: Right.**

CC: And now my brother definitely doesn't cycle. And the other one lives in Japan, I'm sure he doesn't cycle either.

**AD: Mmm.**

CC: So, it was just something I did.

**AD: Right. And were you the eldest, or?**

CC: No, middle. Yeah, yeah. So my older brother wouldn't have done it. But then I think that's a family, that's an unusual family thing, because I learned to drive when I was seventeen. I got a car when I was seventeen and my older brother didn't drive, still doesn't and my younger brother doesn't drive.

**AD: Mmm.**

CC: So I think cycling and driving were a sign of more independence, I think, yeah.

**AD: And do you remember if you had any kind of cycle training by the school, cycle proficiency type stuff, or any other people helping train you, or were you all sort of self-taught?**

CC: Unfortunately I don't remember going cycle training. I do remember we got something, some instructions about, you know, road safety, as pedestrians. We never got anything for cycling, no.

**AD: Hmm. And, um, do you remember different bikes you had at different ages, anything like that?**

CC: The only bike I remember is the one that had really fat wheels. And that must have been my first bike. It had really fat white wheels, because I remember, you know, if I got a puncture or if there was a problem, having to pump up the tyres. And that must have been a real baby bike, you know...

**AD: Mmm.**

CC: because it wasn't normal, it wasn't, yeah. But that's the only one I remember, my first one. For some reason I don't remember, oh yes, now I remember. Yes I remember my first one and I remember the one that had the basket on the back where I hid the money. (both laugh) So that must have been, that was like a shopper...

**AD: Yeah. So that was probably your next one?**

CC: Prob-ab-ly my next one, yeah. And that would have lasted me, well, when did I get... Ah, yes, that would have lasted me until I was a teenager and then I know what happened, I just started getting boy racers and they were all, kind of, fairly anonymous. Yep.

**AD: Hmm. And, um, do you know if there were differences in, or do you remember differences in numbers of boys and girls that were cycling that you knew? I mean, obviously you've mentioned in your family...**

CC: Hmm.

**AD: But in terms of kids on the street, was, do you remember?**

CC: I think that, I remember there being both. I don't remember there being a gender divide.

**AD: Mmm.**

CC: Because the family we played with, they were the other way round, the girl was the eldest and the youngest and the boy was in the middle. And I just remember they all had bikes, yeah. So, yeah, and obviously, well no not obviously, well actually cos I had a boy, I had two – a girl and a boy who were best friends. But I just, I can't remember if James had a bike, but I just assume that he did, because you know we all had bikes.

**AD: Mmm.**

CC: I don't remember going cycling with girls or boys. I just remember cycling being something I did on my own.

**AD: Yeah.**

CC: Actually, yeah.

**AD: Mmm. And, um, then when you became an adult, did you stop cycling at all for a period, or did you just continue cycling but it just changed a bit at various times?**

CC: Um, I can't ever remember if, oh yeah, I think when I went to Dartington I don't think I cycled because I was too far from the college. So I think what I did was I tried running as an alternative. But I had a moped, I also had a car, periods when I had a moped, periods when I had a car, but for some reason I don't think I ever had a bicycle at Dartington.

**AD: Right.**

CC: I don't know why that was. That's really strange. Ah, but in, it's a four year degree and in the third year we were in London and I would have had a bike in London. I always had a bike in London. I'd lived in London before. But I'd always cycled. I don't like using the tube, and yeah, I prefer to go overground. So, um, that would probably be the longest time that I hadn't cycled, would have been the two years I was at Dartington before going to London and the year after. Yeah.

**AD: Right. And, um, since you've been an adult have you, um, or since you finished your degree, have you then tended to use it differently at different stages of your life and, um.**

CC: I've always used it...

**AD: Regularly or perhaps sporadically?**

CC: I've always used it in the same way, I've always used it for practical, um, you know, um, practical reasons.

**AD: Hmm.**

CC: So, I um, yeah, so I've never cycled in, for leisure, or pleasure. Well that's not entirely true because I do like cycling. But I've never thought, ah yes, I will go on a cycle ride. That's why it was unusual that I got this rack last weekend and thought, oh, we could actually do that, but as a leisure activity. Because normally I don't think of it like that. So, it's always been for practical...

**AD: That's for a car?**

CC: A rack for a car, yeah. Yep.

**AD: And, um, so have there been people you know that have sort of encouraged you in your adult life at all, or discouraged you at all?**

CC: From cycling? Um, no, nobody, ah, yes, I know what. The only comment I'd make about that is at the primary school, I don't know, do you have children?

**AD: No.**

CC: No. Well, when you have children there's a lot of kind of repressed competitive behaviour. (both laugh) So you kind of go into a situation, and cycling was very much like that for me at the school. You go into a situation not thinking anything about things you habitually do such as cycle, and I remember when I started in the school I didn't have the bike because life was very chaotic and we moved out of Bristol and then we moved back. And I was working and then I wasn't working and then I was working in a different way. And then when it all settled down and we moved here and I got a bike straight away because I had to. I used to live right next to the school at the other end of Cotham and now I had to get there. And as soon as I appeared on the bike I got lots of comments about 'oh you're so good', you know (both laugh). And I'm thinking what do they mean 'I'm so good'? So, that's the only, I suppose you would call that encouragement.

**AD: Hmm.**

CC: That's the only encouragement I've ever had, is people assuming that you're doing something from the point of view. And then once I did get a criticism, again from a mother. She's a very nice woman but she sort of, I said something about oh a car had done something, yes a car had reversed back onto me, and she said yes but. I said I was trying to get down the side and they reversed back onto me and she said 'yes but were you going down the correct side'? And the fact was I wasn't going down the correct side. But it was, um, cars were parked on either side of the street, there was just one way, do you know what I mean? And it's kind of irrelevant, well to my mind, which side you're on, there's no way. And somehow I got stuck on the wrong side and I was trying to get out. So she was obviously feeling frustrated as a driver that bicycles weave around and... And I don't know if that was because she had seen **me** weaving around, but I do definitely

not cycle conventionally safely, in a conventionally safe fashion, so that would be a fair criticism. And I'd take that, that's fine, I have no problem with that.

**AD: And, um, your, so you cycle to get to places, to do errands, things like that.**

CC: Yeah.

**AD: Have you ever done leisure rides and what about in any kind of fitness sense? Do you use it for that at all, or have you ever used it for that? Do you see it primarily as a useful, practical...**

CC: Practical. A practical means of getting from A to B. I don't at all see it as a source of fitness, although after forty you realise that just because you are on a bicycle it's perceived as a badge or whatever, an example of you know fitness. It's like you are declaring that you're fit enough to get on this thing. (both laugh) Which I just find, because I never had those issues with it, and because I used to do lots and lots and lots of exercise because I did choreography, so. Cycling to me is not the same as exercise, it's a different thing, do you know what I mean. So I don't think of it like that. But now I don't do lots of exercise and choreography then I suppose yes, it is a good form of exercise. (both laugh) Of course.

**AD: But that hasn't been a reason for you...**

CC: Definitely not.

**AD: In cycling?**

CC: No, I'm much more likely to get off and push than to... than to... put... put myself through it. Mainly because I mean I don't want massive thighs or I don't want to build up muscles in that way. I mean I want to have the stamina to be able to get up the hill everyday but after the second or third time I've gone up the hill I'm quite happy to push. (AD laughs). I don't have issues about fitness like that.

**AD: And um so are there many people you know who cycle in terms of friends, family um colleagues or things like that?**

CC: Uh, I only know one person who cycles and I don't know if she really cycles that much...

**AD: Right.**

CC: I think she... well, considering she lives in the top of Cotham and she works in the university – that's maybe 5 minutes by foot – and she cycles I was thinking that's not real cycling (both laugh). It's not that you have to get across the city on a bike. And I... the other reason (I'm sounding like I'm being really rude about her) but the other reason I have is her husband... I said something about hmmm... we used to have two cars and I got rid of mine because it was an old banger and it was annoying me - you know the money it cost to keep it on the road and it was so bad for the environment – so I got rid of it and um... and so then suddenly at the weekend, if we didn't have the car I, you know, um... we couldn't get from A to B with the boy.. I couldn't get from A to B with the boys so then we just started cycling across the city wherever we had to go we'd just cycle in convoy. And I must have... I told this to this friend's husband and he said 'Oh you're so good. (AD laughs.) I can't imagine being able to do that with my children' and I'm thinking 'well get rid of that big van you've got (AD laughs) then you'll find you'll obviously... you know, it's just a case of... it's much quicker to cycle.

**AD: Hmm.**

CC: I mean I suppose we could use buses but I've tried. I prefer the independence of a bicycle.

**AD: Hmm. And I just wanted to ask you to do a little social mapping exercise if you're happy and um, so, what I'm trying to um look at is your sort of picture of cycling for you and what, sort of, encourages you, and what discourages you and, so, it could be friends, family, colleagues; it might be wider things – some people are quite into cycling culture or different things they sort of, um, you know, use on line things, but for you, you know, or it might be just, you know, certain feeling as well around what it is for you. So, if you perhaps put yourself in the centre and then have...**

CC: In what sense, as a drawing or as my name...

**AD: Yes as your name. However, if you want to sort of do something with colours...**

CC: No, no... (AD: laughs.) Your pen's a bit run out...

**AD: Is that not.... use that one.**

CC: Sorry.

**AD: Annoying... Um, so yes, if you put you in the middle and perhaps have this as um more discouraging and that more encouraging and then think about the sort of things for you that... around cycling that...**

CC: OK. Um. Well depending on how heavy - this is not what you want to hear because there's nothing you can do about this - but the main discouragement for me personally about whether I'm going to take my bike or not is the weather. (AD: Uh huh.) So, if it's raining (AD: Hmmm.) I'm probably not gonna... If it's heavily raining I'm definitely not gonna take (AD: Uh huh.) my bike so where would I put that?

**AD: Um, yeah, you can put that over here... I mean I guess I was thinking perhaps the closer... the close to you the more discouraging - so if it's close but on this that's quite discouraging and then there if it's quite close that's quite encouraging. So, I mean, practical factors um but also kind of social in terms of - you know - maybe you say you cycle with your kids and things like that perhaps that encourages you to cycle because you thinking - you know - you'll cycle with them or... I don't know if there's any friends or if you've ever cycled with friends or colleagues or if there's anybody else who...**

CC: Social cycling...

**AD: Yeah, who encourages... I mean maybe you don't need to cycle with them but maybe their... you know that they do...**

CC: Competitive cycling...

**AD: Umm.**

CC: No, not really... (AD laughs)

**AD: Not really competitive . I just mean more in, um, in terms of does it encourage you to - you know - to know... other people are cycling as well. That kind of thing...**

CC: The fact that the children cycle would make me not want to stop cycling because I wouldn't want to lose the, the um capacity to do something that I know they can do and they're going to continue doing as they grow older. So in that sense they're on the far, on the plus side.

**AD: Hmm.**

CC: Umm... Erm...What else encourages me to cycle...? Ok well, this is very practical that, um, if you don't have a car and you have to do a lot of shopping it's easier if you've got a bicycle, so.

**AD: Hmm.**

CC: So what would you call that?

**AD: Um. Yeah. 'Using bike for shopping' I guess.**

CC: Yeah.

**AD: Umm.**

CC: Uh...

**AD: 'Help for shopping', you know, 'easier shopping' perhaps.**

CC: Yeah. 'Easier shopping'.

**AD: I mean do you ever cycle with your husband for example? Or...**

CC: Nope. Interestingly he has a got a very... well I've never seen it, but he's got some amazing mountain bike that he's got but he doesn't have it here. He's got it, because he's got some woodland, he keeps it in the woodland. Apparently he uses it in the woodland although I don't think he uses it very much. Whereas I've got a normal road bike, you couldn't go off road or anything like that. So I think he uses it there, although I don't know, I don't know whether he actually uses it or not. But I bought the other day, a, not the other day, in Oxfam I saw a fold away bike for £70. It's quite heavy which is why it was only £70, but it was such a bargain that I just bought it.

**AD: Mmm.**



CC: Because I love bikes, practical bikes, and I thought this will be very useful, it's fold away, la la la. So I brought it, when we went away on holiday I took it. We took a camper van and we took this as well and so that was good, that was fun. Because even though it was only one bike between all of us it got used.

**AD: Yep.**

CC: And also Graham started using it in Bristol, so, yeah, you know. And that's drawn him in to a kind of a more family context for cycling. But left to his own devices, he would do all that sort of, you know, sport, you know, kind of fitness, that side of things. That would be what attracted him but I don't think he actually gets time to do it.

**AD: Hmm.**

CC: And also, interestingly, I think he's. Also, we go down to Wales and near where we go in Wales there's fantastic off-road cycling.

**AD: Oh yeah?**

CC: It's an international cycling route, it's in the Breckford Forest. And he tried to go on that and came off quite badly, because you see he doesn't actually cycle very much.

**AD: Hmm.**

CC: Yeah, so I never cycle with Graham because he doesn't have a bike here.

**AD: And would you ever tend to go and visit friends by bike?**

CC: Yeah I always visit friends by bike.

**AD: And would, do any of your friends also cycle?**

CC: No, none of them. Absolutely none of my friends. They're all middle-aged women, they don't cycle, you know, they just don't. And even if they were into fitness – actually I have one friend who, um, has got a bicycle, she's very fit, she does lots of sport, and she's very into competitive sport. And she did a sponsored cycle ride in Crete or somewhere. But as far as I know she'd never get on a bicycle, she lives on the other side of town, she'd never get on a bicycle and cycle into the school for example, she'd get in the car.

**AD: Right.**

CC: Yeah. So I don't know anyone that uses it for practical...

**AD: Reasons.**

CC: Reasons, yeah. I don't know maybe I'm in the wrong part of town. (both laugh)

**AD: And, um, do any of the people, you said you have students staying sometimes...**

CC: Yeah, yep.

**AD: Have any of them ever...**

CC: Once.

**AD: used their bikes to get around?**

CC: Yeah once. They're all language students so none of them have bikes. They're here temporarily and quite often they say they're going to get a bike and nothing ever happens. One student actually got a bike and bizarrely, it was very very strange, it got stolen. Somebody just walked down the side and just stole it. And yet I've used my bike for years and nobody's ever taken my bike. So I don't know what that was all about. I don't know. But it disappeared. So he was the only one.

**AD: And are there any other factors that, you mentioned earlier about, um, it being dangerous or difficult to cycle around. I mean is that something that puts you off?**

CC: I was just about to put it down yeah. Aggressive drivers, I guess, would be a good. I had a driver who, um, well it was quite embarrassing because I sort of recognised her children from secondary school so she was obviously a mother. But she squashed me. I was on the correct side this time, but she sort of... she had a very big car – a single road – and she was coming down the road. You know normally if they carry on coming there's a gap you can go into but there was just no gap. So I'm standing there having to sort of stand out of the way of her car and it just really annoyed me. So she's coming down in her car and it just really annoys me so I pushed her mirror in. She went absolutely mad. Completely crazy. Got out of her car screaming and yelling. You know, swearing and saying she was going to kill me and she was going to do this and do that and I was a

stupid bitch – whatever – and all the rest of it. Anyway, I'd sort of, when she stopped the car, I kind of just cycled out the way because it was, because she would carry on coming that I couldn't cycle out of the way before so I sort of cycled out of the way a little bit but I didn't cycle off which was really stupid – I should have cycled off and um... anyway she basically, she got out of the car and chased me to kill me or whatever she was going to do but in the car she had her child in a seat next to her and then she had three kids in the back and she left the engine running and the handbrake off and the car just carried on moving down the street (AD laughs). The car just carried on driving down the street and she ran after me saying 'I'm gonna kill you' and all I did was push her mirror in which I just found incredible! I could have just licked my finger and run it down the side of the car like that and she would have gone ballistic. It's just the attitude that some people have to 'how dare you'... and she just... all she could keep saying was 'how dare you touch my car' and it was like... it's very difficult to miss it when you're like so ridiculous. And I was sort of saying... and I was having to... but I couldn't say it cos she would have wound me up and she was screaming at me so I'm like screaming at her 'you're obviously completely mad', (AD: laughs) you're car is driving in the other...' So the kids had to jump out the back – the older kids – and scream at her to get in the car because they couldn't stop it. That kind of aggression really upsets me because I know that the biggest problem I have with cycling is that I will *instantly* lose it with drivers who – you know – treat you in that way like 'how dare you touch my car' or something like that. And I'm always doing it with my primary school child so he's kind of thinking 'oh, my mum's gone mad' (AD: laughs). That is the one big bugbear I have about cycling is that stored aggression that's quite difficult to sort of get rid of cos – you know – it builds up every day. I mean when you start cycling again, maybe after the holidays it's all fine. But you only have to have one incident and then it kind of, do you know what I mean?

**AD: Um.**

CC: That side of it I don't like. But I mean I haven't had anything like that for a while, but that really wound me up.

**AD: Sounds like a very extreme example.**

CC: Well I mean she was obviously a bit mad. But it was that way, you know, as a cyclist you can't ever get it right, which is why I have absolutely no qualms about running red lights and things like that. And I know the police see me they'll stop me and they'll be, I mean I know I shouldn't do it. But I just think I'm just not going to engage with the convention because basically drivers just, just want you off the road. You know, they really think you're not even fit to touch their cars. (both laugh) But when you speak to other cyclists, they're fine. I remember I went into school and I said to somebody and he said, I don't know he's probably a doctor, there's a lot of medics at that primary school. It was a complete stranger, never spoken to him before and I said 'have you had that' and he said 'I have that every single day I cycle'. And I thought, yes, I mustn't let it get to me, but it does, sometimes. Luckily I wasn't with Rob (younger son) when that happened...

**AD: Mmm.**

CC: Thank goodness. I was on my own, but. But quite often when cars cut me up, or particularly when I'm with Rob (younger son), and they hoot or do something or drive past very fast, or

**AD: Hmm.**

CC: Ahh, it just makes me really mad. And do you know, they sort of say, you know, you're mad. And I do appear mad, I become quite, you know, it's annoying. (both laugh) I did say to Rob 'I'm never going to do it again, I'm never going to.' But it's difficult! And then I did it the other day and I wasn't even on the bicycle. So annoying. And it's aggression towards drivers. Because they've changed the lights just down here (Gloucester Road) and there's a pedestrian crossing which flashes green so you can walk as a pedestrian. And they've put a feeder which crosses the green, so that all the cars feed across as you're walking across on the green thing. It's incredibly dangerous and obviously children think it's safe and it's, and it's not. And this car did it the other day and I just stood in the middle of the road and just refused to move. But it's the same thing.

It's from cycling, that sense of you have no right. And it's not true, as a pedestrian you can't be killed by a car, you know. You can stand in front of them and they can't. And it's the same on a bicycle.

**AD: Mmm.**

CC: It's just they think that if you're on a bicycle they can get you.

**AD: Mmm.**

CC: And that's what I've noticed with the boys as well. I've had quite a few people say to me about my older son 'his cycling's really dangerous'. And he has to, you know, and 'his cycling's really dangerous'. And I'm thinking 'I know exactly what his cycling's like, it's the way I taught him, bomb around!' (laughs) You know what I mean, and I just sort of think there is no safe cycling, unfortunately. I mean, you know, he does, I'm sure he does things that he shouldn't do, I'm sure he does, but what I'm trying to say is you could be the safest person in the world and still get killed on a bike, you know.

**AD: Mmm.**

CC: So I find that quite, that's my one bugbear about cycling. And only cycle paths that people respect are going to do anything about that, making that better.

**AD: Mmm.**

CC: And the problem with Bristol is that people don't respect the cycle lanes. So you know, they park in them and they stop and they're not long enough and you know, so. So that's my one negative, but I suppose the positive thing about cycling in Bristol is not many people do it.

**AD: Hmm.**

CC: Relatively, hardly any people cycle.

**AD: Yep. So, in terms of, it's not too congested in terms of bikes, I don't know if that's something you'd like to (writing down on the social map). And do you think there are, um, differences in gender when it comes to cycling? I mean from when you've talked to men and women about cycling, or when you see people cycling do you notice differences?**

CC: I cycled into the centre yesterday. I never normally do that. And, um, I've decided I'm going to do it more, um. Anyway, so I cycled into the centre and there were a lot of male cyclists, well they were all male cyclists and they're all just really good and they just wait on the lights and they are really good. And I just never do, I just go when it's free, you know, I don't even think. What I do is a lot of energy conservation, I conserve my energy. So, you know, I'll be going along down here, um, and way before I get to the lights I'll be seeing around where they change. So I won't cycle too hard, so lots of people will be going past me and then I'll speed up when I get to a point where I think that I'm going to get through. Do you see what I mean? So I don't cycle really fast. But I just avoid ever stopping if I can. So I go along at my own pace but do a lot of slipping through. And I noticed that everybody else was like 'fast, fast, fast' 'stop' 'fast, fast, fast' 'stop'. So of course I kept passing them and they kept passing me. There was a lot of very aggressive passing going on! (both laugh) And I was thinking 'but I wasn't trying to get in front of you'.

**AD: Hmm.**

CC: I was just, you know, timing it so that I could slip through the lights. I don't mean, I wasn't running all the red lights, but I was just going, they were red and I knew they were just about to change, and then they did. So I was just timing it really. And I noticed that that's not, you know, socially not very acceptable. And I understand that. But that's why I cycle because I don't have to conform as much on a bicycle. (both laugh) I don't know.

**AD: So you'd say the style of cycling is the main...**

CC: For me.

**AD: Difference that you notice between men and women?**

CC: I think men are much more competitive cyclers. I, er, yes I suppose that's the main difference is that yeah. But the trouble is, the trouble is, it's not marketed, non-competitive cycling. So women don't really have anywhere to go with it. They don't really market the Miss Marple style of cycling do you know what I mean. And also, I've got a

fairly, well not old-fashioned, but I've got a ladies bike with a bicycle basket and it's quite cronky. So people don't expect you to sort of overtake them, or, I don't know what they expect really but it's difficult to put your finger on, do you know what I mean? I think there's a lot of conventions around cycling, since cycling's become very popular.

**AD: Um.**

CC: That I don't have a lot of interest in, so. You know.

**AD: And, um, do you think that they tend to cycle for different purposes perhaps?**

CC: I think women are more likely to cycle for different reasons, for reasons other than the reasons that are marketed to them. Yeah I think they're more likely to. I think men are just going to pick up on the marketing, it's you know, that it's cool, it's sexy, it's where, there's a lot of kit that goes with it. You know, the whole bike thing, the clothes and things. I think women do get in to that but I think they grow out of it by the time they're in their thirties. So from that point of view, from a marketing point of view they'd need some other options to keep them interested. Yeah that's probably why a lot of women don't cycle in their forties.

**AD: And what could make it easier for more women, I mean you mentioned marketing different types of cycling. Is there anything else you think could make it easier?**

CC: Yeah, I think you could market it but you could do it as, you know, a retro thing, you know. It's difficult because obviously it's not like cycling down a country lane, cycling through the traffic on a bike that doesn't look incredibly streamlined, but. I mean, I don't know. But, I don't, ah, it's difficult. I don't know what would appeal to most women in their forties. Exercise doesn't appeal to them, so, you know. I think if you started cycling in your forties that would be hard.

**AD: Hmm.**

CC: Most women I know, not most women, there's two women I know that cycle that have had accidents and they've both said they were too scared to carry on. But they both said they found it frightening cycling after that and they both said that the driver looked at them and went anyway. But you see my view is it's irrelevant if the driver's looking at you, you've got to be looking at them so whatever they do you've got to be able to get round it. So I never look at a driver and think 'oh do you know I'm here'. I just look at a driver thinking, it's almost like a sort of confrontation, you know, 'are you going to go, are you not going to go?' I think it's a different sort of mentality and I think they're driving, cycling like they drive and you just can't cycle like you drive.

**AD: Um.**

CC: Because people don't give you the respect to be on the road, you know.

**AD: Hmm.**

CC: For they can quite easily **look**, see you, and then drive over you. I mean I've seen that so many times, seen people do that so many times. Seen cyclists get hit off their bikes with doors that are opening. And I think that's the problem, you know, if you're going to encourage women to cycle, you know, it's quite a dangerous arena for them to go into in a way and most women don't want to go into that. But I think the best way you could encourage middle-aged women to cycle is to say get your kids involved, get your kids to exercise and get them not to be fat, and. Most mothers want to do that for their kids. That's probably the best way to get them cycling. Just, you know....

**AD: Mmm. And, um, do you, what other transport do you tend to use regularly apart from cycling?**

CC: Um, I only use the car. I should use the bus really. I'm thinking about starting to use the bus but no I just use the car.

**AD: Do you tend to walk much?**

CC: Yeah. Well if I was going to go to Gloucester Road I'd never cycle, I'd walk, *obviously*. (AD: laughs) If I was going to Whiteladies Road if the weather wasn't good, I would walk. Yeah.

**AD: And, um, trains, if you're doing longer journeys do you tend to drive, or do you ever take the train?**

CC: I drive, yeah, because my husband's addicted to the car, so we do tend to drive. We drive far too much, I think. Yeah. My only concession to, you know, is cycling.

**AD: Mmm.**

CC: To being kind of healthy and environmental. (both laugh)

**AD: And, um, in terms of cycling with children, this is something we touched on, um, how did you first start cycling with your kids and what was that experience like, you know? Were they quite little? Did you have them on the back of a bike at all, or?**

CC: Yeah, I had both of them on the bike...

**AD: Mmm.**

CC: Each of them used to go on the bike to school on the back.

**AD: A little seat or a tag-along thing?**

CC: A seat. A tag-along, tag-along, I think is too dangerous. Mind you seats are quite dangerous when they get bigger, but yeah, a seat on the back. So they spent their first five years on the back, and then um, and then... Not reception because they are four and it's too young, but by five they'd be cycling with me in the mornings. On the pavements which always caused other mothers a lot of – they hate it. But you can't have a five year old on the road, you just can't. In the rush hour traffic, it's just way too dangerous. So they'd do five to eight, probably, on the pavements and then by nine they'd be on the road.

**AD: And would you go on the pavement as well in front of them or would you go on the road next to them and they'd go on the pavement? How did you manage that?**

CC: How did I used to do that, um? I think I used to walk and they used to cycle. I think that's what I did.

**AD: Ok, right, right.**

CC: Yeah. Yeah.

**AD: And did you get, um, negative reactions from other people then about the kids being on the pavement?**

CC: Yeah. Yeah.

**AD: And do people comment to you, or?**

CC: Yeah, they told them to get on the road, yeah, yeah. (AD: laughs) Well, you just can't say anything. I mean they didn't usually do it aggressively. They usually were mothers with prams, whatever. You know, I can understand why. I mean quite often these people have been run over by bikes or kids on bikes. I mean I understand. But it's just, you know, it's a stupid thing to say to a child. Because the thing is, the nine year old now cycles on the road. But when he was a bit younger he was emotionally capable of getting to school on his own using the pavement. But it wasn't safe because I knew adults would have told him to go on the road and I knew that it wasn't safe for him being on the road. There's a difficult transition, because he's now cycling on the road and he's fine at nine but it wouldn't be fine on his own because of the traffic. And then he's got another two years and then he'll go to secondary school and then he'll probably like his brother, stop. Because nobody cycles to school at secondary school because all the bikes get nicked. So it's not possible.

**AD: Do they not have any...**

CC: They do, but they still get nicked. Because all you need is access to where the bikes are. And then as someone who's got a bike you can just nick a bike and so that's what they do. So, though they lock them away, the kids with the bikes just nick other kids bikes. They just get in there and just nick the other kids bikes. It's terrible. And not only that, there's a lot of problems around kids taking bikes to school. If you imagine there's loads of problems about taking your mobile phone to school to do with nicking it, it's exactly the same with a bike. So then you'll get spotted if you've got a nice bike, even a not very nice bike, they'll just get you after school and they'll just get your bike. It's just going into a territory that, because we live in Cotham we don't need to, we can just walk.

And the whole problem's just gone then. He did try and take his bike but it just wasn't worth it, it was just far too much hassle. Which is a shame.

**AD: Mmm.**

CC: But I mean that's another, so you've got the traffic problem and you've got the sort of gang problem.

**AD: Yeah.**

CC: So it's just not worth it.

**AD: Hmm. (both laugh)**

CC: It's not worth it, not in this area. He does, they both cycle though because he goes to the playground on his bike, so. Yeah.

**AD: And what do you think could make it easier for parents cycling with children? I mean you've said a lot of the parents you know would refuse and say it's too dangerous...**

CC: Yeah.

**AD: You know, what kind of things do you think could encourage more of them to do that?**

CC: I mean the only way you could encourage parents to do it is if they did it as a matter of habit, you know, not as a matter of a special, unusual activity, but as a daily activity. And then they'd get their kids to do it as a daily activity. I mean I don't worry about the secondary school child not cycling, um, because I know that he can and he does every morning. So I don't worry that he doesn't do it any more than that, because the third problem with cycling when you get into secondary school is drugs because all the kids need a reason to get out of the house and go off somewhere and cycling's the best reason. So cycling's one of the reasons, along with skating and skate-boarding that they use to get away from their parents who'll think they're having a nice time in the park. And that's where they get all their access to drugs and so on and so forth, so. There are issues with kids when they are older going off on their own with bikes in cities, quite a few issues. But I think when they are younger the best way to encourage them to do it is to habitually do it yourself and then they almost do it automatically. But I think if they only ever see you get on a bike in the Forest of Dean on a straight cycle path where there's nobody else coming or there's only bikes coming, then they're never going to cycle.

**AD: Hmm.**

CC: You know, it's a different type of cycling.

**AD: And did you do all the cycling with them when they were younger or did your husband cycle with them as well?**

CC: No.

**AD: And is there anything which would encourage you to cycle more than you do at present?**

CC: Mmm. Yeah, um, um, cycle paths, yep. Yeah, better cycle ways. I'd definitely do a lot around the city if there was better, if there was better provision for cyclists.

**AD: Uh huh.**

CC: Yeah, I'd do more with the boys. Um, that's the main thing really.

**AD: Hmm.**

CC: Because then it would be pleasant, you know. I would, yeah, go out at the weekend and think yes this is going to be an enjoyable thing to do, sort of thing.

**AD: Mmm. And you've probably touched on some of this, um, but if I asked you what the main reasons why you cycled were, what would you say, for you?**

CC: They're practical. Just to get from A to B more quickly. To carry heavy stuff. Um. It's not bad for the environment. Um. It's relatively healthy, but I don't really think of cycling as healthy because of the psychological stresses attached to it, but it's not the most unhealthy thing you could do. (both laugh) If you see what I mean. Um, yeah. So, mainly practical reasons.

**AD: And what do you find enjoyable when you've got enjoyable circumstances for cycling? What do you find, what bits do you find enjoyable? Is it, sort of, speed, or are there certain aspects about cycling particularly that you...**

CC: Um. The most, hmm, that's a bit of a sort of, because the issue for me is, the thing that I find enjoyable about cycling is that it's, it's more um, it's more um, convenient. It's faster than going from A to B in a car...

**AD: Mmm.**

CC: in certain circumstances. So, that's not, so in that sense I don't really enjoy cycling for pleasure because I don't think of it as, yeah. So the thing that I would find most enjoyable about it is sort of trying to get somewhere and finding it easier on a bike than being in a long line of traffic. I do actually find that enjoyable, you know, to get past the traffic. Um, yeah. I just find it more.

**AD: And what do you dislike? I mean again you have touched on...**

CC: Yeah.

**AD: These things, but sort of.**

CC: Um, the main thing I dislike about cycling is the roads are not wide enough for the bicycles and the cars to pass. And so the culture is that, you know, the bicycle has to disappear off the road. That's the main thing that I dislike about it. So, every single time a car comes – usually from the front it's much better – but especially from behind it's just a nightmare. Because you, you can't cycle close to the side because that's inviting them to crush you against the side. If you cycle in the middle that really pisses them off. If you pull in, that's what they really want you to do, and that really pisses me off. (both laugh) So, it's a bit like, every single time there's a car behind you, you've got that question, you know...

**AD: What do I do?**

CC: What do I do? And it's just you shouldn't have to have it, you know. You're in front of them, you're on the road, it's irrelevant what they're doing, because they're behind you. And it really pisses me off. (both laugh) I mean cars coming towards you, that's different, because you can wave and smile and you feel like it's all fine, you know. It's the ones that come from behind that I just think, argh, they're the ones that really bug me. (both laugh)

**AD: And do you ever encourage other people to cycle? I mean obviously within your family, you've brought your kids up to cycle, but do you ever talk to other friends or colleagues about it? Um, have you sort of encouraged them in...**

CC: Um, well most people I know, they hate cyclists, so there's absolutely no point. They just get in the way and they're just a pain (the cyclists). And I can understand why, but you know. Very few people with children cycle.

**AD: Hmm.**

CC: Most mothers with children, they will park up, I always have to go past the nursery, they will park on the pavement, open the door, so that you cannot get past on the pavement, should you be walking and pushing your bike. You cannot get past on the road because they'll have the other door open on the road side. They just don't care, even if you're with kids on bikes, trying to get round. There's just a shift in mentality, particularly for women that's sort of, you know, 'I have to have this big tank around me'. And because I mainly know mothers they're just not interested in cycling. So.

**AD: Hmm. And you've mentioned about facilities and so on. Um, so for you having cycle, dedicated cycle routes is, because there's obviously different types of facilities. There's things about lowering speeds, there's having actually segregated routes, or just routes that don't have a separate kerb. So there's a few different styles of facility. Is there any, you know, what would you like to see?**

CC: Um, I would like. The only sort of route that I would like to see is one in which, well I guess I don't know if we have this, but I don't think we do. The only sort of route that I think would work, but we don't have it, is one in which the pavement is divided so you can cycle and walk on the pavement. Because as soon as you put a cycle path in the road you can forget it because it's going to get parked on. Even the pavement they park on, but they park less on the pavement. So, but, cycle routes on the road just don't, you just can't follow them. So I kind of would like, but the problem is then that you're on the narrow pavements with children and you'll have cyclists quite aggressively cycling

because they'll feel it's their right, and of course that's too dangerous, so. It's hard to think of how it could work in Bristol or in the UK really. So I don't know the answer to that.

**AD: And, um, Bristol's obviously had the Cycling City...**

CC: Yeah, yeah.

**AD: Have you been conscious of anything around that, have you seen things around to do with that or been conscious of any changes?**

CC: The only change I've noticed is that they have a big cycle thing don't they (Bristol's Biggest Bike Ride) where everyone cycles, once a year or something. And I was conscious of that because that is where the parents at the school get their bikes out with their kids and say oh lets go cycling – once a year on this big cycle thing. Yeah, so I noticed that, yeah.

**AD: Right, well, I think that's pretty much all the things that I wanted to ask.**

CC: Okay.

**AD: But I don't know if you've got any other experiences which you wanted to share, you said you...**

CC: No, only that one about that woman whose car continued to go down the road. (AD: laughs) I mean I've had loads of run-ins with drivers but I do feel that I'm 50% to blame.

**AD: Mmm.**

CC: And in that situation I was 50% to blame. But, you know, I just felt that it was a very, um, extraordinary response. You know.

**AD: Mmm. And that kind of response, that kind of interaction, it strikes me that it's quite resilient to keep cycling...**

CC: Oh.

**AD: When you have that. Does that ever make you think 'oh, I've just had enough of this'?**

CC: No, I never think I've had enough of it. But when other people tell me stories about how they've been hit by cars. In fact I know the mother of the person that runs Ted Baker cycles is it, on, down there?

**AD: Yeah.**

CC: They used to go to the school where we are and I think she came off her bike. She was run down by someone and everytime I hear stories like that it just *really annoys me!* And I just think that's definitely, you know, it's definitely not going to happen to me. But I also, very regularly think, you know I, it will be this that gets me, you know. I'll probably get killed one day on my bike, because. Because I don't tend to look for dangerous situations, it's probably the most dangerous thing I do, is cycle. But I just, I just find that really annoying, that it should be that dangerous, do you know what I mean. That it should be like that.

**AD: Yeah.**

CC: But then you know, car driving is dangerous as well, so. And you have to get from A to B, so. Um, I don't know, I don't know really. But, um, certainly I wouldn't like to give up. Because I think the main problem with giving up is that then you lose the ability, the mental and physical flexibility to be able to go back after a certain age. And that would really, I'd find that a real problem if I couldn't get on a bicycle. (both laugh) I'd think, 'oh my god, my life is over'. And it would be very strange. So that's why I don't have a great desire to do a lot of off-road cycling and all these things, because I know that I could. If I thought that I couldn't, I'd probably want to do it. You know, if I thought 'maybe I'm not fit enough' or. But I know that I could easily do it so it just doesn't have an attraction, you know.

**AD: So, it's a keeping a certain independence**

CC: It is yeah.

**AD: And youth and flexibility.**

CC: It's a maintaining a certain flexibility, mental, physical and emotional flexibility. And that includes, you know, the anger and stuff and trying to sort of manage it. Because once you go into that place where, there is no, there is no place where you're not going to



get these sort of things. So I'd rather manage it over cycling issues than some other issue, you know.

**AD: Yeah. And I mean, you know, when you have instances like that, do you tend to shout and...**

CC: I do.

**AD: Make impolite gestures sometimes?**

CC: I'm absolutely terrible.

**AD: How do you actually...**

CC: I'm really terrible. I mean on the road the other day, even without the bike, when I was crossing with luckily my oldest son, the fourteen year old. And this driver kind of hooted at me to get out of the way and I was saying it's green pedestrian and he just hooted and went past. And I was just going '**just fuck you**' (both laugh) in the middle of the road. And Al (eldest son) was going 'I'm never going out with you again'. (both laugh) And I was just like, I've just got soo bad. Because the thing is I didn't even feel angry. I was just perfectly happy to go 'just fuck you, rar rar rar'. And I didn't even feel angry or wound up or anything. And I realised that it was just completely normal for me to just come out with terrible abuse. (both laugh) And the awful thing was, I don't think it's his fault because I phoned the council afterwards. I'm sure it's because the time is wrong. So he thinks that it's ok and he didn't understand what I was talking about. Why should he? He just thought I was a mad woman in the road. (AD: laughs) But it's annoying because, and my husband's just completely unsupportive about things like that. He said, and he just says 'well you just look mad'. And he's right. And I sort of think where does that aggression come from and it comes from being on a bike every day. That's all I can say. You know. I mean it's not so much the confrontations with drivers that build up that sort of aggression in me. It's when there's no confrontation at all but they miss you by that much, that's what builds up the aggression, you see. That's the thing. But most of the time I'm ok. But you only need you know one or two a month and it just, you know, builds up.

**AD: Yeah.**

CC: And the other thing is, you never know when you're going to get it. You can be quite happily, quite happily doing what you always do, cycling in the middle of the road and thinking 'you'll just have to wait'. And you'll get a taxi driver or something and they will literally, kind of, run you off the road. You know, and, yeah. You just have to deal with it because otherwise you wouldn't carry on cycling.

**AD: Mmm.**

CC: I suppose you've just got to have a broader view about the whole kind of thing and remember that kind of thing and remember that everyone deals with it all the time. And the only option of not dealing with it is that you lose that freedom. So why let them take that away from you I suppose? You just have to have that sense of purpose, you know, what you enjoy about doing it.

**AD: Absolutely. Well, thank you.**

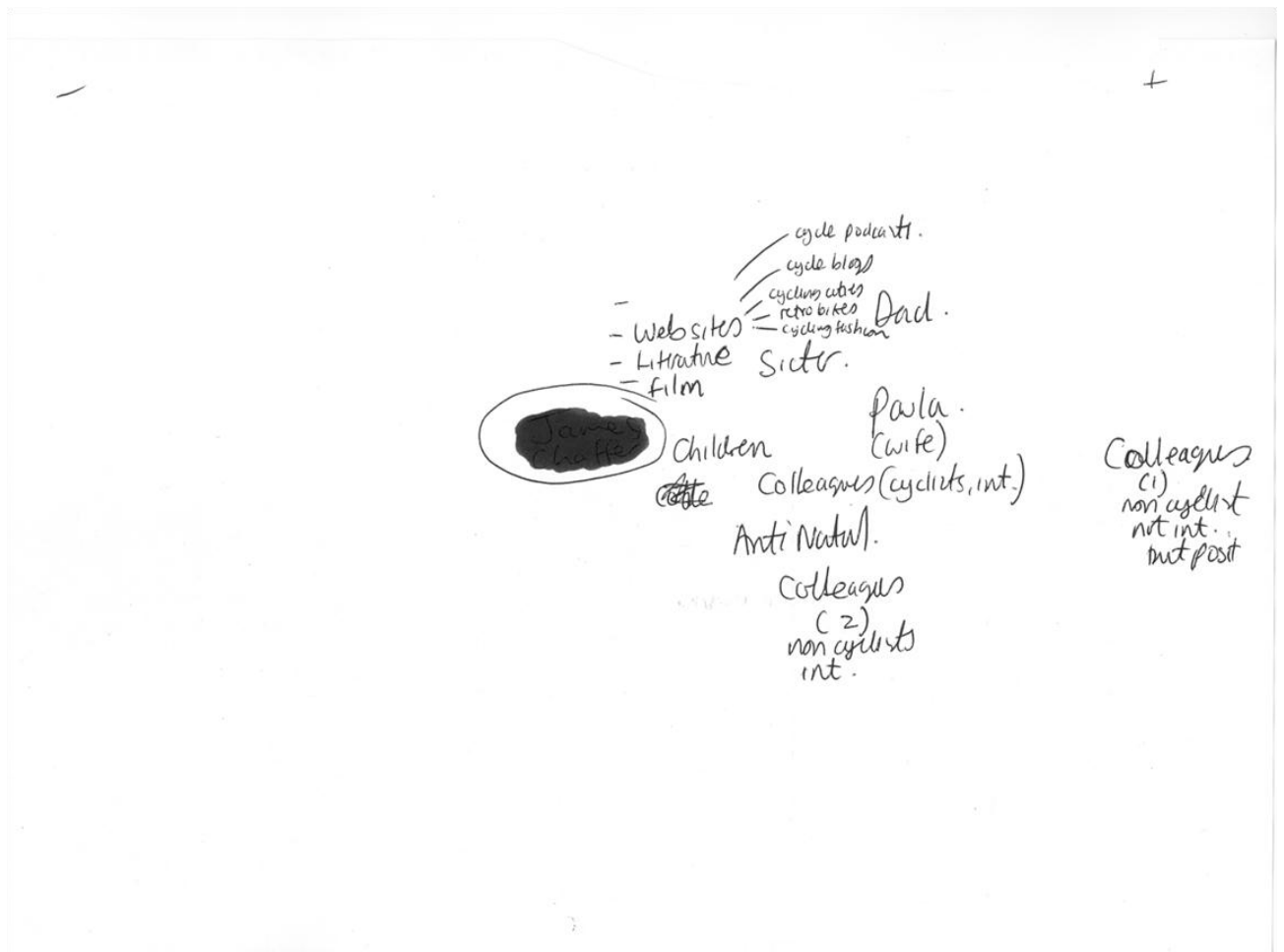
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## Appendix 7: Example of 'social map' drawn by participant during the interview

Social map of John Chancer, interviewed 21/05/10 in Bristol



## **Appendix 8: Research reflexive diary entry (example) – Tristan Evans, 29/04/2010**

### **a) Impressions of participant**

Very nice, friendly guy in the mold of keen 'CTC-type'. Cycled a lot as a child. Doesn't see the need for infrastructure, thinks more people cycling = more people cycling. Noticeable that other male figures on the social mapping are seen as positive influencers/re-inforcers of cycling, whilst female figures are only on the negative side – mainly due to worry/concern about safety.

Interesting that mother thought of as a negative factor even though he grew up cycling and was often injured as a child – has there been a shift in the mother's attitude?

Showed him my UWE staff ID card – useful or necessary?

### **b) How I managed the interview**

This was my first interview and I think I managed to do everything wrong for it! Wasn't able to give info sheet beforehand, or paperwork on the day, due to timing of interview (before everything was ready) so sent retrospectively. Generally the interview went well, he was a talkative and interesting interviewee. The interview last 50 minutes, so I kept to time (with a few mins wrap-up time either side). I took 2 digital recorders; the official UWE one (Edirol) and one my Mum gave me (Olympus VN-1100). I didn't feel very au-fait with them beforehand – I had tested them, batteries etc, but hadn't had time to read the manuals in depth. The UWE one didn't record the interview so I just had 49mins of silence! I was extremely glad I had the back-up of the other, though I thought at the time that it might be overkill.

The interviewee seemed slightly puzzled by the social mapping and didn't give many individual names – often referring to groups/online communities in general – something which hadn't occurred to me is that people's everyday social networks may be quite small/limited or that they may perceive their networks just as immediate family for example. Think there is a danger that I have assumed that participants will be like me in this respect and perhaps I am not typical. It will be interesting to see how this exercise works with a woman in the next interview. Does the social mapping actually help to introduce and cement the idea of gathering social contacts (alters) for the focus group stage? Participant seemed willing to give contacts, though this will be after the event – may be better generally to do after the event?

## Appendix 9: HSC Ethics Committee Application

### SCHOOL RESEARCH ETHICS SUB-COMMITTEE



University of the  
West of England

### APPLICATION FOR ETHICAL REVIEW

#### Project Details:

Project title	Women on the move: gender & cycling issues in the UK
Project funder	EPSRC
Proposed project start date	1 <sup>st</sup> December 2008
Anticipated project end date	30 <sup>th</sup> November 2011

#### Applicant Details:

Name of researcher (applicant)	Anja Dalton
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Contact postal address	School of Health & Social Care University of the West of England Blue Lodge, Glenside Campus Blackberry Hill, Stapleton Bristol, BS16 1DD
Contact telephone number	0117 328 3025 / 07963 831882
Name of co-researchers (where applicable)	On this PhD project I am the sole researcher, but I am part of a wider consortium, called iConnect. Jane Powell and Nikki Coghill are the other UWE members of staff in the iConnect consortium.

*(for completion by SRESC)*

*Date received:*

*SRESC reference number:*

*Scrutiny – Cttee/CA*

*Outcome:*

*Applicant informed:*

Applicant Details continued:

For student applicants only:

Name of Supervisor (for PG and UG student applicants) <sup>1</sup>	Director of Studies: Dr Jane Powell Supervisor 1: Dr Paul Pilkington Supervisor 2: Prof Graham Parkhurst
Supervisor's email address	Jane.powell@uwe.ac.uk
Supervisor's telephone number	0117 328 8752

Details of course/degree for which research is being undertaken	PhD
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**<sup>1</sup>For student applications supervisors should ensure that all of the following are satisfied before the study begins:**

The topic merits further research  
The student has the skills to carry out the research  
The participant information sheet or leaflet is appropriate  
The procedures for recruitment of research participants and obtaining informed consent are appropriate

Supervisor comments:	The topic fits broadly within the remit of iConnect research aims; in particular the evaluation framework that forms the basis of this five year project. It merits further research. Anja has the skills to carry out the research and is a student on the MA Applied Social Research (dissertation stage). Procedures for recruitment of participants and informed consent have been discussed and are appropriate. The Patient Information Sheet is appropriate.
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Details of the proposed work:

1 Aims and objectives of, and background to the research:  
I am part of the iConnect consortium, (<http://www.iconnect.ac.uk/>) which is an interdisciplinary consortium of eight academic institutions with expertise in energy, environmental, physical activity, public health and transport research. The iConnect study, funded by the Engineering and Physical Sciences Research Council (EPSRC), aims to measure and evaluate the changes in travel, physical activity and carbon emissions associated with Sustrans' Connect2 programme (<http://www.sustransconnect2.org.uk/>). This is an ambitious UK-wide project to transform local travel in 79 communities by creating new crossings and bridges to overcome barriers such as busy roads, rivers and railways, giving people easier and healthier access to their schools, shops, parks and countryside by walking and cycling.

The five-year iConnect study began in May 2008. It involves a broad evaluation of the whole Connect2 programme coupled with detailed investigations at a small number of selected case study sites. The study aims to determine whether the new routes created as part of the Connect2 programme have encouraged people to switch from using their cars to walking or cycling, helping them to become more physically active and reducing their carbon footprint.

My particular research will investigate gender differences in cycling, since in the UK 'only half as many British women as men use bikes' (Stredwick 2004). This, however, is not the case in several European countries, such as Germany and Holland where levels of cycling are high and women cycle more than men (Garrard 2003). In the Netherlands, for example, 31% of all trips taken by women were by bike, compared with 26% of all trips by men (Den Haag, NL cited in Garrard, 2003).

I am interested in the barriers to women cycling more, some of which are: fear (of both volume and speed of traffic and also personal safety concerns), risk aversion, lack of quality facilities such as off-road and segregated on-road routes, lack of cycle parking, showers & bike storage facilities, poor weather conditions, topography, concerns over personal appearance and cultural barriers (Lehner-Lierz 1997, Gatersleben & Appleton 2006, Vandenbulcke et al 2009, Parkin et al 2007, Garrard et al 2008, Stredwick 2004). Cultural barriers may include the perceptions of cycling as a 'sport' which is off-putting to women and the fear that they will be socially

marginalised by cycling when others drive and so may view cyclists in a negative light.

I am also interested in whether those that do take up cycling socially influence others, thereby creating a 'virtuous circle' which promotes greater levels of walking and cycling. I will be using one Connect2 site in Cardiff/Penarth as a case study to investigate these issues. The Pont y Werin or People's Bridge connects the market and seaside town of Penarth in the Vale of Glamorgan with the offices, shops and facilities of the Cardiff Bay area. A series of routes linking with the bridge are planned, and it will also link in with the wider cycle network in the Cardiff area, including the popular Taff Trail (National Cycle Network route 4). There is enthusiastic local support for this link and it has the potential to encourage many more people to choose to cycle to work and for shopping and leisure. Cardiff Connect2 scheme has also been chosen provisionally as a case study site in the wider iConnect study.

**Aims:** To investigate gender differences in cycling in the UK and determine the key reasons for the lack of participation in cycling by women. To discover whether social influence is a significant factor in persuading more people (and especially more women) to cycle.

**Research Questions:**

- 1) What are the most important barriers to more women using cycling as a mode of transport for both commuting & leisure needs?
- 2) How can these barriers best be overcome?
- 3) What role does social influence play in encouraging others to take up cycling?
- 4) Are there gender differences in how this operates?
- 5) What lessons could be learned from this to achieve higher rates of cycling among women in the UK, such as those seen in countries such as Germany, Holland & Denmark, where female cyclist may outnumber males.

My research questions will be refined and improved upon during the piloting process in Autumn 2009.

## 2 Research methodology to be used:

The case study area around the People's Bridge in Cardiff is where I propose to focus my research in terms of women using the bridge to cycle. Research methods will include both individual semi-structured interviews and focus groups. I have chosen these methods as I believe they best fit the purposes of this study which is to explore in depth why women are cycling less than men in the UK and what barriers could be overcome to encourage more women to cycle. As May states, 'Interviews are both flexible, practical and capable of yielding rich insights into people's biographies, experiences, opinions, values, aspirations, attitudes and feelings' which is precisely what I would like to explore around gender and cycling issues (May, 2001 p120). Focus groups will enable me to discuss the extent of social influence amongst a group of initial participants, friends, family or colleagues. It is also a method which with I am familiar, as I conducted a series of focus groups for my Masters dissertation research on people's views of aviation and climate change (Dalton 2005).

I will also analyse some secondary data collected in the area, either from Sustrans route user monitoring surveys or from one of the iConnect consortium's pre- & post-intervention questionnaires, or both. This will depend on both timing and access, and whether Cardiff is finally chosen to be a case study site to administer one of its survey instruments. The Sustrans' pre-intervention route user monitoring has been undertaken during Summer 2009 and so may be used as a source of secondary data.

I intend to conduct semi-structured interviews using purposive sampling. An interview schedule will be drawn up in due course, as I have chosen to maintain a degree of flexibility with my interviews at this time, so as to be free to explore themes around experiences of cycling and social influences as they arise. I will draw up a list of topic areas around which I will structure my questions, but propose doing this once my pilot interviews (two interviews) and focus groups (one focus group) have taken place. These I plan to conduct in October/November 2009 in the Bristol area.

3 Selection of participants:

Will the participants be from any of the following groups? (*Tick as appropriate*)

- ☐ Children under 18
- ☐ Adults who are unable to consent for themselves<sup>2</sup>
- ☐ Adults who are unconscious, very severely ill or have a terminal illness
- ☐ Adults in emergency situations
- ☐ Adults with mental illness (particularly if detained under Mental Health Legislation)
- ☐ Prisoners
- ☐ Young Offenders
- ☒ Healthy Volunteers
- ☐ Those who could be considered to have a particularly dependent relationship with the investigator, e.g. those in care homes, medical students
- ☐ Other vulnerable groups

*(<sup>2</sup> Please note, the Mental Capacity Act requires all intrusive research involving adults who are unable to consent for themselves to be scrutinised by an NHS Local Research Ethics Committee – Please consult the Chair of your Faculty Research Ethics Sub-Committee or Amanda Longley or Alison Vaughton (RBI) for advice)*

If any of the above applies, please justify their inclusion in this research

**Note: If you are proposing to undertake research which involves contact with children or vulnerable adults you will generally need to hold a valid Criminal Records Bureau check. Please provide evidence of the check with your application.**

4 Please explain how you will determine your sample size, and identify, approach and recruit your participants:

I anticipate undertaking 20 – 30 in-depth, semi-structured interviews with adult (18 and over) individuals who have self-identified themselves as regular cyclists (3+ trips per week). Approximately half will be male and half female and I would like to achieve a fairly wide age spread within this. However, cyclists do tend to be clustered amongst certain age groups in this country, so it may be difficult to locate suitable older and older female participants in particular. The sample will not be representative of the normal population.

The interviews will be conducted at mutually convenient public locations (if at all possible) in the Cardiff and Penarth areas. Public locations, such as café's, meeting rooms and community centres have the advantages of protecting both the researcher and the researched by being usually in sight or call of others. It may result in some loss of intimacy and rapport compared to interviewing participants in their own homes, however. I will ensure that either Jane Powell, Paul Pilkington or Graham Parkhurst is aware of the timing and location of my interviews and my safe return, so that were a problem to develop someone would be aware of my absence. I will also carry my mobile with me at all times.

Participants will be recruited, using a purposive sampling strategy, via local bike shops and also local employers. There are a number of bike shops (Tredz, Sunset mtb, Reg Braddick Cycles, Cyclopaedia, The Bike Shed & Damian Harris) in the Cardiff/Penarth area where I will be able to leave leaflets advertising the study and encouraging participants to contact me. Having contacted a local bike shop their advice was that leaflets were the best method of reaching their

customers since they do not maintain a mailing list of customers or use their website to interact with customers regularly. I will also contact participants via the large employers which are located in the Cardiff Bay area, such as: Wales Millennium Centre, International Sports Village, St Davids Hotel & Spa, etc.

From these initial participants I then propose to ask them to help me recruit people who know them to take part in the focus groups, these could be composed of work colleagues, friends or family. The purpose of the focus groups is to explore participants' views about cycling, how much they themselves cycle, if they would consider it in the future and also what they think about the cyclist they know. Are they aware of a wider set of beliefs about other issues connected with the environment or health? Is their behaviour influenced by cyclists they know and in what ways? I plan to undertake 6 – 8 focus groups, each with 7 – 9 participants, since this approximate number is considered optimal in focus group research (Krueger & Casey 2000).

The taped interviews and focus groups will be transcribed in full by the researcher personally and then entered into NVivo to help with the analysis of the data. I intend to use an interpretive and flexible approach to the data analysis which uses some coding but also relies on the researcher's interpretation of the texts and ascribing meanings to those texts (Robson, 2002 p458). I will keep a detailed log of the data collection phase of my research which will include both practical details of all interviews and focus groups, but also learning notes on what issues, concerns and successes arise during the data collection. This will refer only to participants pseudonyms.

5 What risks, if any, do the participants face in taking part in this research and how will you overcome these risks?

I do not anticipate that participants will experience any particular risks or inconvenience except for the time taken to complete interviews or focus groups. All participant information sheets will include contact details for participants to use in the event that they have any queries, problems or complaints arising from their participation in the study.

6 How will you obtain informed consent from the participants (include copies of participant information sheets and consent forms)?

Please find attached a copy of my consent form and information sheet which will be given to all participants. A copy of both will be kept by the researcher and also a copy of each will be retained by the participant. I will allow time at the start of sessions for participants to ask me any questions they would like to about me or my research and as stated in the information sheet they are free to withdraw consent or not participate in the first place as they choose.

I have included my contact details on both the consent form and the information sheet so that participants can contact me after a session with any queries they may have. Participants also have the option to contact my director of studies, Dr Jane Powell, if they wish to make a complaint or raise any issues about how the research has been conducted.

7 How have you addressed the health and safety concerns of the participants, researchers and any other people impacted by this study?

As described above I intend to hold interviews and focus groups in public spaces in the Cardiff & Penarth areas, which will protect both the researcher and the research subjects from some health and safety concerns. The topic area is not a particularly personal one and I do not anticipate that interviews or focus groups will generate great emotional responses from participants, other than the usual exchange of views that you would find on any topic. However, if participants have any concerns about a session they are free to contact me or my director of



studies.

I have used my personal mobile number on both the consent form and information sheet since UWE does not provide PhD students with mobile phones in the course of their research. My landline at the office in the Blue Lodge is shared with up to eight other students, leading to confidentiality issues and potential confusion. I also work from another office at the Frenchay campus (4Q53) (as I am cross-disciplinary and am also involved in the Centre for Transport & Society) sometimes and at home occasionally, so the mobile number is the most reliable way of contacting me. It is also the most convenient in case participants need to inform me of any last minute cancellations or changes to arrangements. In case of any nuisance/abuse issues it is straightforward for me to get a new number.

I will also give participants an information pack of cycling information with local routes, cycling organisations, bike shops etc. This will hopefully mean that participants (and especially those who currently do not cycle) have all the information they need to contemplate cycling in the future.

My personal safety will be protected in three ways:

- by conducting all research in public places wherever possible (cafes, community centres, meeting rooms) rather than in participants homes
- by having a switched on mobile phone with me at all times so that I can raise an alarm if needs be
- by informing one of my supervisors of the location and timing of my interviews so that if I have not returned as expected they could raise an alarm.

8 Please explain how confidentiality will be maintained:

Personal information will be used only for contacting participants. After participating in the study (either in a semi-structured interview or a focus group) an identifying code sheet will be drawn up which lists participants' original contact information and their research pseudonym, this will be kept separately to the transcripts in a locked filing cabinet at the Blue Lodge, Glenside. Any electronic information will be held securely in a password-protected system, which will be backed up regularly. No information from the data gathered will be published or disseminated in such a way as to allow any individual to be identified.

9 Please describe how you will store information collected in the course of your research and maintain data protection:

Paper data (interview and focus group transcripts) will be stored in a locked filing cabinet at the Blue Lodge, Glenside Campus, UWE. Electronic data will be stored on a password protected computer system accessible only to myself and my supervisory team and it will be regularly backed up to guard against any risk of data loss. All data will be anonymised on transcripts, when entered into NVivo or when used in any dissemination format (journal article, conference presentation, newspaper article, etc).

After I have completed my PhD, the anonymised research data will be stored for a specified period of time in case it can help with any future research projects. I envisage that the data will be stored for 5 years together with a key to participants with my supervisor at the School of Health & Social Care and then for another 5 years after the participant key has been destroyed. This will be determined after full discussion with my supervisory team.

The iConnect consortium as a whole may be required to deposit some data with EPSRC who are funding this project. This will be determined via discussions with the consortium at the end of the project, which will be after my PhD is due to finish, in 2012. Any data required to be given over via this process will be anonymised. Please see attached iConnect collaboration agreement for details of how the consortium is set up to work together.

## **Appendix 10: HSC Ethics Committee Approval letter**

Our ref: SE/lt

19 February 2013

Anja Dalton  
School of the Built & Natural Environment  
4Q53  
Frenchay Campus

Dear Anja

Application number: HSC/09/09/45

Application title: Women on the move: gender & cycling issues in the UK

Your ethics application was considered at the School Research Ethics Sub-Committee meeting of 29<sup>th</sup> September 2009 and based on the information provided was given ethical approval to proceed with the following conditions:

1. Please remove the sentence 'Thank you for taking part in this study. I hope you find it interesting and enjoyable'. This seems to assume that the person reading the sheet has already decided to take part, which is not the case.

If these conditions include providing further information please do not proceed with your research until you have full approval from the committee. You must notify the committee in advance if you wish to make any significant amendments to the original application.

Please note that all information sheets and consent forms should be on UWE headed paper.

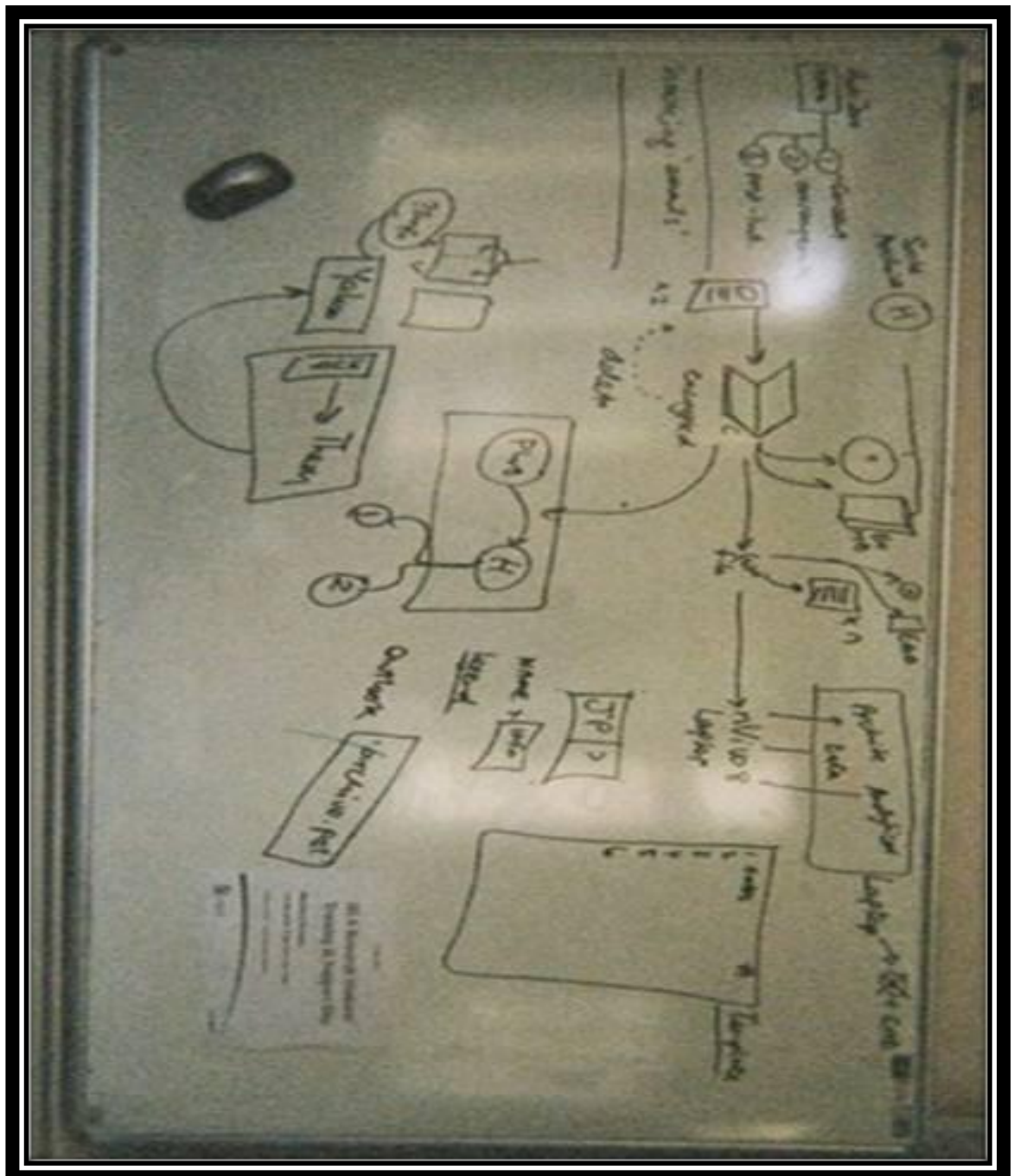
If you have to terminate your research, please inform the School Research Ethics Sub-Committee within 14 days, indicating the reasons for early termination.

Please be advised that as principal investigator you are responsible for the secure storage and destruction of data at the end of the specified period. A copy of the 'Guidance on Managing Research Records' is enclosed for your information.

We wish you well with your research.

Yours sincerely  
Simon Evans  
Chair  
School Research Ethics Sub-Committee

## Appendix 11: RSTD data management process template





connect

**UWE**  
**BRISTOL** University of the  
West of England

# Cycling stories: what are your Bristol cycling experiences?

Do you cycle in Bristol?

Would you be happy to be interviewed about your cycling experiences by  
a researcher from the University of the West of England?

It will take no more than an hour and you will be given a £10 voucher as a  
thank you for your contribution.

Interviews can take place at a time and place within Bristol to suit you.

If you are interested, simply get in touch with me, Anja Dalton:

**TEL: 07963 831882      EMAIL: ANJA2.DALTON@UWE.AC.UK**

**POST: ROOM 4Q53, UNIVERSITY OF THE WEST OF ENGLAND, FRENCHAY CAMPUS,  
COLDHARBOUR LANE, BRISTOL, BS16 1QY**