THE ATTITUDES OF YOUNG PEOPLE TOWARDS TRANSPORT IN THE CONTEXT OF CLIMATE CHANGE

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A thesis submitted in partial fulfilment of the
requirements of the University of the West of England, Bristol
for the degree of Doctor of Philosophy

Faculty of the Built Environment, University of the West of England
May 2008

Abstract

It has been argued that a key component of tackling climate change is to reduce our reliance on the car. In response, it is put forward by this thesis that influencing young people before they develop a 'car habit' would appear crucial and that a more in-depth understanding of the attitudes of young people towards transport and climate change is key to the framing of policy and transport initiatives. This thesis reveals key findings from an exploratory study involving a series of small group discussions with young people before and just after the point of licence acquisition. It investigates the participants' attitudes towards transport modes, their willingness to tackle climate change and the extent to which their willingness to tackle this issue does, or has the potential to, influence their current and, more importantly, future intended travel behaviour. A number of findings were made by the research, most prominently the complexity of and interrelation between the factors influencing the attitudes of young people towards transport and its impact on climate change and the need for policy and initiatives aimed at influencing young people away from an intention to drive (towards an intention to use more environmentally friendly modes), to take an holistic approach in their development. At the same time, it was found that the participants are currently subject to a range of sources of information, and at times mixed messages, about this issue.

Further to this, it was found that image, identity and materialism are central to the values expressed by the participants in relation to transport modes, and in turn their emotional responses towards the same. These factors are reflected in the participants' positive attitude towards the car in favour of more environmentally friendly modes and the dominance of this mode in their current and, more importantly, intended travel behaviour. Gaining the ability to drive was found to act as a key life-stage with respect to the participants' self-identity and role-identity as a driver in particular. However, it also became clear that, although they lack a sound understanding of climate change and they expressed a lack of 'front of mind' concern about this issue (in that they understood it is a serious environmental problem but are not 'concerned' about it), a number of participants (of all ages, each gender and including those able to drive) were accepting of the idea of enforced behaviour change.

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Chapter One
Introduction

Although a controversial issue (with respect to providing conclusive evidence), climate change is regarded by scientists and politicians alike as the greatest problem facing the world today. Due to increasing levels of greenhouse gases in the Earth's atmosphere it has been reported that we are already experiencing changes in climate and that these are set to continue (IPCC, 2007). The implications for society on a global scale include declining water supplies, loss of biodiversity, an increase in flooding events, drought, hunger, starvation injury and death. In the UK they include a rise in temperature, a rise in sea-level, an increase in precipitation and flooding, and an increase in drier and hotter summers and wetter warmer winters (UKCIP02, 2002).

Providing the greatest contribution to atmospheric levels of greenhouse gases is the burning of fossil fuels, including those produced via the manufacturing and running of motor vehicles, in particular the car. Considering the increasing dominance of the car with respect to the UK society's travel behaviour, it would appear necessary to find ways to reduce society's dependence on it. In response, the UK Government have set specific targets in relation to tackling climate change via transport policy. A clear understanding of society's attitudes towards transport is key to such policy (and other transport initiatives) – both in relation to voluntary and enforced travel behaviour change. However, despite the public having a general understanding of and concern about climate change, current evidence suggests that it is travel behaviour (in light of this issue) that they are particularly unwilling to change.

Further to this, young people (defined here as those between the ages of 11 and 18 years) are not only unwilling to change their current or *intended* travel behaviour (which in the latter case is dominated by the desire to drive and/or own a car in the future) in light of climate change[1], but they also express a lack of concern about this issue. Consequently, the main aim of this thesis is to better understand why young people intend to move towards use of the car (and often away from more environmentally friendly modes) for two main reasons. Firstly, they are yet to form a reliance on the car

[1] See Chapter Two.

as a driver and so it is assumed that there remains scope to influence them before they develop driving habits. Secondly, they are the segment of the UK population most likely to experience the impacts of climate change (more extensively and for a greater proportion of their life-times) and subsequently it is assumed that this issue could be used in efforts to influence young people away from the intention to drive and towards an intention to use more environmentally friendly modes.

Nonetheless, it is recognised that willingness to tackle climate change is only one factor with the potential to influence the travel behaviour intentions of young people and that it may not be an influencing factor at all. However, it is considered important to investigate its current/potential role further in light of the impact of transport on climate change and the degree to which policy and information provision is based on the link between the two. In doing so, it may also be possible to establish whether other factors pose a stronger influence on young people and/or whether such factors may be utilised in favour of climate change in efforts to influence travel behaviour change.

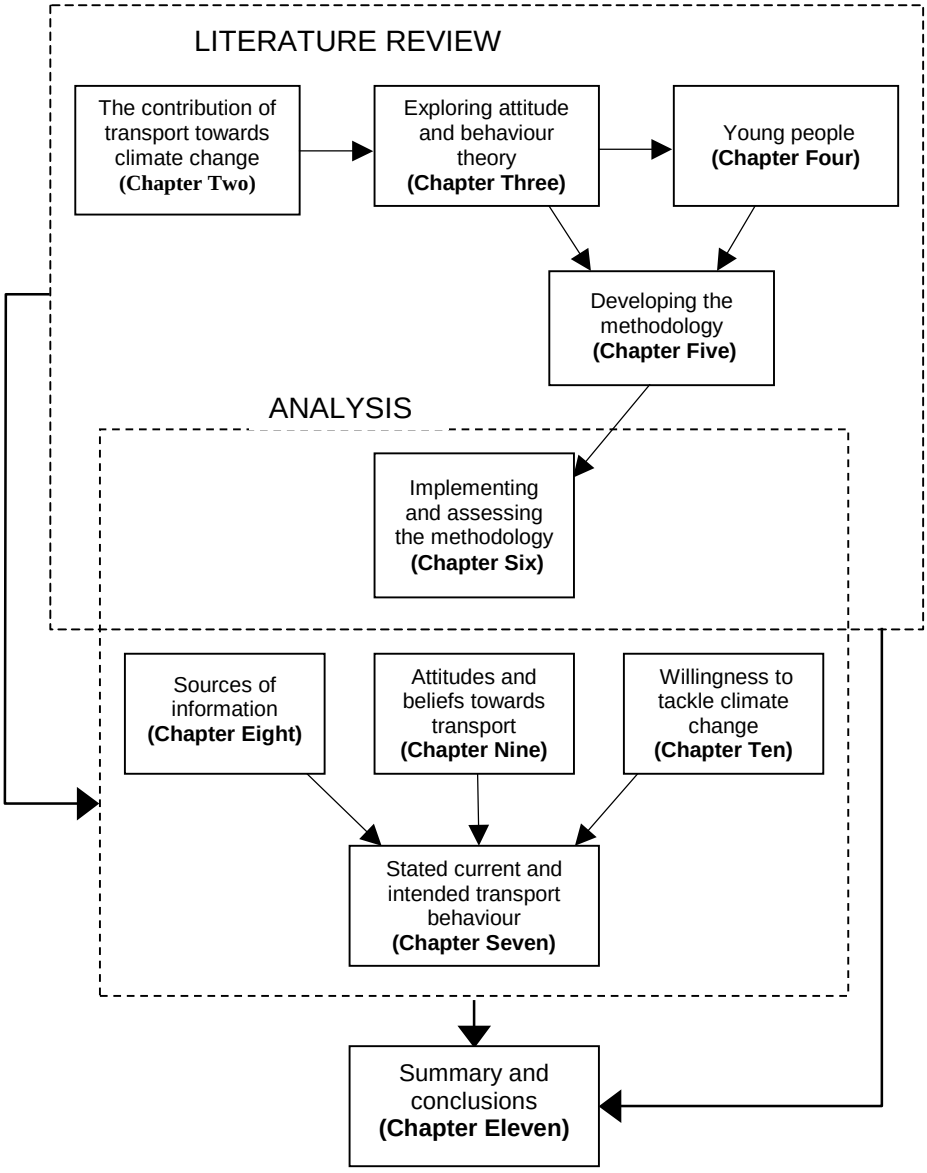
However, it is also recognised that travel behaviour intention does not always lead to actual behaviour change. Thus, it is not assumed that the findings of the new study reported by this thesis will include all of those factors requiring attention with respect to promoting/encouraging actual travel behaviour change (in this case, reducing use of the car and increasing use of more environmentally friendly modes). But, considering the present thesis concentrates on use of the car as a driver and the attitudes of young people at and (the majority) below the age of licence acquisition, it can only consider their intention to drive in the future[2].

In focusing on this aim, the thesis is structured as illustrated in Figure 1 (page 3). It can be seen that Chapters One to Five are strongly informed by literature from across different subject areas and Chapters Six to Ten present the methodology and findings from primary research conducted for the thesis. Both the literature review and the analysis of findings then feed into the summary and conclusions presented in Chapter Eleven. Accordingly, Chapter Two first defines what is meant by climate change with respect to 'best' scientific understanding and the current and future impacts of this. It then highlights the contribution made by human activity - in particular that via society's

[2] In this sense, when talking about *current* travel behaviour, the thesis is referring to the influence of the participants' past experiences of using (or not using) transport modes on their travel-related attitudes and behaviour intentions.

travel behaviour. This provides an important reference point when assessing society's understanding of this issue later in the thesis. Following this, an account of the political response to climate change is given, particularly the response in the UK and that in relation to transport. Attention is then given to the public reaction to climate change, identifying the gap between society's concern about climate change and their lack of willingness to change their travel behaviour in light of this issue.

Figure 1: Structure of the thesis



Chapter Three explores why this attitude-behaviour gap exists. In doing so, it begins by establishing what is meant by attitude, and therefore discusses a range of theoretical frameworks applicable to the context of this thesis. Through this, a number

of factors (or 'concepts') are identified as potentially influential in relation to society's attitudes (and current/future intended behaviour) towards transport modes and their willingness to tackle climate change (including values, information, behaviour beliefs, social norms, image, self-identity, role identity, control beliefs, and personal/moral norms – which in this thesis specifically refers to 'willingness to tackle climate change'), as well as several methodological issues that should be attended to when exploring these issues further. In addition, the importance of exploring the attitudes of *young people* is first noted in this chapter, here in reference to those below the age of licence acquisition who are yet to form habitual behaviours or a reliance on the car as a driver.

Chapter Four considers young people in more detail. It begins by defining what is meant by young people in the context of this thesis, before considering the travel behaviour of this segment of the population in the UK. Following this, a discussion of the current understanding of young people's willingness to tackle climate change via changes in their travel behaviour is given, utilising those factors considered influential in Chapter Three. The chapter concludes by identifying issues requiring further research and, in light of this, presents the aims of the thesis:

1) To explore (and in doing so gain a deeper understanding of) the attitudes of young people towards transport modes, their 'willingness to tackle climate change', and whether their willingness to tackle this issue acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour (away from an intention to drive, towards an intention to use more environmentally friendly modes).

2) To develop and implement a methodology that focuses on understanding the thoughts, feelings and actions of the young people involved in the research in their own words, reflecting both the subjective nature of attitude and the importance of engaging with this particular age group.

With the second of these aims in mind, Chapters Five and Six present a justification for, and an account of, the methodology utilised by the study carried out for this thesis. In doing so, Chapter Five discusses the issues surrounding the involvement of young people in research and the most suitable methods of research for the primary data collection. Chapter Six then illustrates the complexities of implementing the methodology chosen and the key issues that should be considered (with respect to the

impact of the methodology) when analysing and drawing conclusions from the findings elicited.

Chapter Seven provides an introduction to the analysis of findings, explaining and justifying the structure used. The 'top-level' structure is illustrated in Figure 1 and from this it can be seen that the participants' stated current and future intended travel behaviours are discussed in Chapter Seven, followed by an account of the factors influencing their behaviour in Chapters Eight, Nine, and Ten. These factors are identified as (i) the sources from which the participants gain information about transport modes and climate change (as discussed in Chapter Eight); (ii) the participants' attitudes and beliefs towards transport modes (the focus of Chapter Nine); and (iii) the participants' willingness to tackle climate change (as explored in Chapter Ten). Finally, Chapter Eleven presents the summary and conclusions of the present thesis, the key findings and implications of these, as well as ideas for further research.

Chapter Two

The contribution of transport towards climate change

2.1. Introduction

Climate change is regarded by many as the greatest problem facing the world today (Brown, 2007; Dimas, 2007; Beckett, 2007; Oxfam, 2007). From historical and geological records we know that the Earth's climate has always been changing (e.g. Dellman et al., 2003; Chlachula, 2003) and at times such changes have been relatively abrupt and have had large sociological effects. For example, the Classical Maya, the Viking colonists in Greenland, and the frontier farmers of the US all faced climatic fluctuations that threatened the food production systems on which they relied (Orlove, 2005). It is perhaps understandable then that there is concern about the future of the Earth's climate and the likely impacts of climate change on society, as well as a need to identify ways in which we can tackle this issue - particularly in relation to the contribution of human activity towards it.

The influence of human behaviour on the Earth's climate has caused scientific and political debate since the early 1900s when it was first indicated by Swedish Chemist Svante Arrhenius that anthropogenic carbon emissions may be contributing to an 'unnatural' increase in global temperatures. In the intervening period climate studies have split scientific opinion, although presently the consensus is that human activity (including that related to transport) *is* contributing to climate change and this has, and will have, serious consequences for society now and in the future.

The purpose of this chapter is to illustrate what is meant by climate change, how human activity (particularly that related to transport) is considered to be contributing to this issue, the political response to the link between transport and climate change, and the public reaction towards the same. In doing so, a thorough review of the current relevant literature is presented - with the purpose of contextualising those more specific issues focused upon later in this thesis, such as the degree to which it can be said that society has a basic or sophisticated understanding of climate change and the extent to which this understanding could be improved.

2.2. Climate change - a scientific perspective

2.2.1. 'Best' scientific understanding

According to the United Nations Framework Convention on Climate Change[3] (UNFCCC, 1992), climate change refers to,

> "A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability over comparable time periods." (UNFCCC, 1992)

Natural climate variability can be caused by processes internal to the Earth, such as the amount of CO_2 absorbed by trees and other plants, or those that are external such as variations in sunlight intensity[4]. However, it is the contribution of human activity that is focused upon by this thesis.

The ability to obtain conclusive evidence in relation to climate change has been subject to widespread debate and as a result climate-science is often scrutinised and criticised by those in other scientific fields, politics, the media and society at large. The main point of contention lies in the inability of scientists to conduct whole Earth experiments (or 'computer simulations') in relation to future climate change scenarios in the same way that the disciplines of astronomy and cosmology are unable to conduct experiments on galaxies or the cosmos (IPCC, 2007). It therefore remains impossible to confirm the *exact* contribution of human activity to climate change or what the effects of climate change will be. Nonetheless, there have been great advances in the development of the tools required to answer these questions and (therefore) in the volume of 'best' scientific understanding of these issues. As such, it is now generally accepted by the world's leading scientists that human activity is an important

[3] The UNFCCC came into force on 21st march, 1994. According to their website (www.unfccc.int) it, "sets an overall framework for intergovernmental efforts to tackle challenge posed by climate change…The Conventions enjoys nearly universal membership, with 191 countries having ratified." The UK is one of these members.

[4] However, Lockwood and Frohlich (2007) recently reported that "over the past 20 years, all the trends in the Sun could have had an influence on the Earth's climate in the opposite direction to that required to explain the observed rise in global mean temperatures." As such, they point to human activity as the root cause of recent climate change.

contributory factor in relation to climate change, as reported by Oreskes (2004)[5], le Plage (2007)[6], and perhaps most importantly, the Intergovernmental Panel on Climate Change[7] (IPCC, 2007). It is this understanding (as outlined in the remainder of Section 2.2.) that also forms the basis of political support for the existence of and need to tackle climate change.

2.2.2. Human activity and climate change

Naturally, energy from the sun is trapped inside the Earth's atmosphere by greenhouse gases and it is this that allows the Earth to maintain its current temperature. However, if the level of greenhouses gases becomes too high then too much of the sun's energy remains in the Earth's atmosphere, thus raising the temperature[8]. According to Defra (2007a), the most important greenhouse gases are carbon dioxide (CO_2), methane, nitrous oxide, hydroflourocarbons, perflurocarbons and sulphur hexafluoride[9]. On a global scale, the IPCC (2007) report that atmospheric concentrations of CO_2 and methane have increased to a degree that far exceeds the "natural range" over the last 650,000 years and thus they point to human activity as the most likely cause of this.

[5] Oreskes reviewed the scientific literature on climate change based on analysis of 928 abstracts of papers from refereed scientific journals between 1993 and 2003 and concluded that there is scientific agreement that human activity is the major contributory factor in relation to the present threat of climate change.

[6] Le Page states that there is an "overwhelming consensus" that human activity is contributing to climate change and, although there are some exceptions to this, "…the number of skeptics is getting smaller rather than growing." (le Page, 2007)

[7] Established in 1988 by the World Meteorological Organization and the United Nations Environment Program (UNEP), the IPCC is the authoritative international body charged with studying climate change. The IPCC surveys the worldwide technical and scientific literature on climate change and publishes assessment reports.

[8] This is known as "the greenhouse effect", which is vital to understanding climate change as it is the change in temperature associated with the greenhouse effect that has consequences for the Earth's climate.

[9] Chloroflourocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are also powerful greenhouse gases, but are linked to and regulated by government on the basis of their contribution to ozone depletion rather than their contribution to climate change. CFCs and HCFCs are being phased out under the Montreal Protocol, but are also part of a longer list of greenhouse gases covered by the Kyoto Protocol (see Section 2.3). 'The Montreal Protocol on Substances That Deplete the Ozone Layer' is an international treaty designed to protect the ozone layer by phasing out the production of a number of substances believed to be responsible for ozone depletion. Ozone depletion refers to the destruction of the stratospheric ozone layer which shields the Earth from ultraviolet radiation harmful to life. It is separate to the issue of climate change.

These greenhouse gases have various anthropogenic sources including changing land use patterns through agriculture, deforestation and road building[10]. However, the greatest contribution of greenhouse gases to the atmosphere is made via the burning of fossil fuels. Coal, oil and gas are used in this way to generate electricity, which in turn is used to heat our homes and power factories. Electricity and oil are also used in the manufacturing and running of motor vehicles. As a result, the transport sector accounted for 21 per cent of the UK greenhouse gas emissions and 27 per cent of CO_2 emissions in 2004 (Defra, 2006a).

2.2.3. The impact of current and future climate change

Due to increasing concentrations of greenhouse gases in the atmosphere, the IPCC (2007) refers to the changes in climate the Earth is already experiencing. These are summarised as follows:

- Eleven of the last twelve years (1995-2006) rank among the 12 warmest years in the instrumental record of global surface temperature (i.e. the average of near-surface air temperature over land and sea) since 1850. The linear warming trend over the last 50 years (0.13 ^{0}C [with an uncertainty range of 0.10 ^{0}C to 0.16 ^{0}C] per decade) is nearly twice that for the last 100 years.
- Mountain glaciers and snow cover have declined (on average) in both hemispheres and widespread decreases in glaciers and ice-caps have contributed to sea-level rise. Losses from the ice sheets of Greenland and Antarctica have also *very likely* contributed to sea-level rise from 1993 to 2005. Overall, global average sea-level rose at an average rate of 1.8mm per year between 1961 and 2005.
- Satellite data since 1978 shows that annual average arctic sea ice extent has shrunk by 2.7% (with an uncertainty range of 2.1. to 3.3%] per decade and the maximum area covered by seasonally frozen ground has decreased by about 7% in the Northern Hemisphere since 1990.
- Significantly increased precipitation has been observed in eastern parts of North and South America, northern Europe and northern and central Asia and drying has been

[10] These can lead to the removal of trees and other plants which in turn removes a key natural mechanism for removing CO_2 from the atmosphere (via the process of photosynthesis). At the same time, the CO_2 'locked up' in these plants is released back into the atmosphere when they are burned or through the process of decay.

observed in the Sahel, the Mediterranean, southern Africa and parts of southern Asia.

- The frequency of heavy precipitation events has increased over most land areas, consistent with warming and observed increases of atmospheric water vapour.

(Source: IPCC (2007))

Looking to the future, the IPCC (2007) predict a global average temperature increase of between 0.1^0C and 0.4^0C over the next two decades, a rise in sea level of between 0.18 and 0.51m by 2090 – 2099 (relative to levels in 1980 – 1999), a decrease in snow cover and a shrinkage in sea ice (IPCC, 2007). They also consider it "very likely" that hot extremes, heat waves and episodes of heavy precipitation will become more frequent, and "likely" that tropical cyclones (typhoons and hurricanes) will become more intense. In addition they suggest that such impacts will continue to be felt even if greenhouse gas concentrations are stabilised due to the time scales associated with climate processes and feedbacks.

In the context of humankind the IPCC (2007) refer to a range of potential future impacts, including a decline in glacial water supplies from major mountain ranges (where more than one-sixth of the world population currently lives) and a decrease in crop productivity at lower latitudes for even small local temperature changes of +1 – 2^0C. The impacts of rising sea levels (which include flooding and increasing risk of coastal erosion) will be felt closest to the coast, particularly in densely-populated and low-lying areas where adaptive capacity is relatively low, and which already face other challenges such as tropical storms or local coastal subsidence. Considering 21% of the world's population already live within 30km of the coast (Gommes et al., 1997) and these populations are growing at twice the global average (Bijlsma et al., 1996) the impact of flooding could be catastrophic for millions of people. Consequently, there is an increased risk of hunger and starvation as well as injury, disease and death via heat waves, floods, storms, fires and droughts.

In the UK, Hulme et al. (2002)[11] reports that the 1990s was the warmest decade in central England since records began in the 1660s and on August 10th 2003, the UK

[11] Hulme et al. (2002) report on the UK Climate Impacts Programme (UKCIP) Climate Change Scenarios. Four different scenarios are presented, based on four different emission scenarios. The scenarios were developed using the latest global climate model from the Hadley Centre for Climate Prediction and Research at the Met Office.

experienced the highest-ever maximum temperature (in any month) on record, measured at 38.5^{0}C in Faversham, Kent[12] (Met Office, 2006c). In addition, Hulme et al. (2002) reported that the growing season for plants in central England increased by approximately one month between 1900 and 2002 and while heat waves have become more frequent in summer, there are fewer frosts and cold spells in the winter. They also revealed that the average sea level around the UK is now approximately 10cm higher than it was in 1900.

Considering the future impacts of climate change in the UK, the UK Climate Impacts Programme (UKCIP) makes a number of predictions:

- The country's climate will become warmer and annual temperatures may rise by between 2 and 3^{o}C by the 2080s. Warming will be greatest in parts of the southeast where temperatures may rise by up to 5^{o}C in summer by the 2080s;
- High summer temperatures will become more frequent and very cold winters will become increasingly rare;
- Winters will become wetter and summers may become drier across all of the UK. The largest relative changes will be in the south and east where summer precipitation may decline by up to 50% by the 2080s. Heavy winter precipitation will become more frequent but the amount of snow may decline by up to 90% by the 2080s, depending on the region.
- Sea-levels will continue to rise around the UK and could be between 26cm and 86cm above the current level in southeast England by the 2080s.

(Source: UKCIP02, 2002)

With these predictions in mind, the heat waves experienced by the UK in the summers of 2003 (Johnson et al., 2005) and 2006 (BBC, 2007), and winter flooding of 2000 (RMS, 2000) and 2004 (Galvin, 2004) could become more frequent with devastating impacts on people and the natural environment. For example, Johnson et al. (2005) reports that during the August 2003 heat there were 2139 (16%) 'excess' deaths in England and Wales, particularly amongst those aged over 75 years. Flooding, in particular flash flooding, poses a very real threat to lives as well as destroying homes, businesses, water supplies and, roads and railways.

[12] Further, 2006 saw the highest-ever maximum temperature for July measured at 36.5 ^{0}C in Wisley, Surrey (on the 19th) (Met Office, 2006a) and April 2007 was the warmest April on record (Met Office, 2006b).

2.2.4. The specific contribution of transport

The impacts of society's reliance on the car (in the UK) are many. However the focus of this study is the contribution of transport towards climate change. As noted previously, the transport sector accounted for over a fifth (21%) of the UK's greenhouse gas emissions and over a quarter (27%) of the UK's CO_2 emissions in 2004 (Defra, 2006a). In addition, transport is responsible for emissions of nitrogen oxides, and carbon monoxide (CO), leading to increased global concentrations of nitrous oxide (N_2O) (a potent greenhouse gas on entering the atmosphere (Vitousek et al., 1997)) and ozone, another greenhouse gas (created by the chemical transformation of CO in the atmosphere) (CICERO[13], 2007). However, there are important differences between the different *modes* of transport. Therefore this section establishes which mode of transport can be considered the least and which can be considered the most 'environmentally friendly' with respect to its contribution to climate change.

In relation to walking and cycling, although use of these modes requires food, a bicycle and the necessary infrastructure (i.e. a road, footway, or pedestrian or cycle pathway), the CO_2 produced (through human-respiration, as well as the production of bicycles and food) is negligible when compared to the greenhouse emissions produced by the infrastructure and use of motorised transport (i.e. the car, bus and train) which is utilised for the majority of journeys by people in the UK (as discussed below).

The majority of motorised transport relies on the availability of fuel, being almost completely dependent on oil - which is also a non-renewable source of energy (Gudmundsson and Hojer, 1996). From Table 1 (page 14) it can be seen that cars produce considerably more carbon dioxide, carbon monoxide and nitrogen oxides in the UK per year than both buses and trains, and that the train can be considered the most 'environmentally friendly' form of transport in this respect[14]. However, bearing in mind far more miles are travelled by car per person in the UK than by bus and train, this is perhaps not surprising. Thus, there is a need to establish the environmental credentials of each *vehicle* within these modes.

[13] The Centre for International Climate and Environmental Research, Oslo.
[14] Although it is noted that those pollutants highlighted in Table 1 do not represent an exhaustive list of all pollutants emitted by the four modes, individually or collectively.

Table 1: Average distance travelled per person per year and pollutant emissions from transport in the United Kingdom by source: 2005 (Source: DfT, 2006a; DfT, 2006b)

	Miles travelled per person in 2005	*Pollutant (thousand tonnes emitted in 2005)*		
		CO_2	**CO**	**Nitrogen oxides**
Car	5746	69,000	951	215
Bus	354	3,600	7	37
Train	461	2,000	4.8	27

Considering the release of CO_2 only, RAC Motoring Services (cited by Transport Direct 2007) estimate that the CO_2 emissions released by the car per gram per km varies between 120g/km for a 1200cc engine to 226+g/km for an engine over 3000cc[15]. According to Defra (2005a), the average number of occupants on trips by car is 1.59 (as measured in 2002/2003). Therefore, by taking these two figures together, the average CO_2 produced per passenger km by car can be measured at between 76.1g and 142.14+g. In comparison, Transport Direct (2007) estimate that bus/coach journeys produce 89.1g CO_2 per passenger km and rail journeys produce 60.2g per passenger km. Therefore it appears that the car, on average, is the least environmentally friendly mode of transport and (again) the train is the most environmentally friendly in this context. However, the figures used by Transport Direct (2007) assume,

> "…an average number of passengers for the typical sort of vehicles used when travelling by the particular type of transport." (Transport Direct (2007)

Thus, it is recognised that each mode may not be used as efficiently as these figures suggest (such as empty buses and trains and cars carrying only the driver), while at the same time they may be used more efficiently (i.e. buses, trains and cars carrying a full passenger load). As such, when this thesis refers to the bus and train as being 'more environmentally friendly' than the car (with respect to their impact on climate change), it

[15] These figures, which according to Transport Direct (2007), "come from DfT and have been agreed with Defra." represent running (from new) a privately owned car for a period of three years with an annual mileage of 12,000. They are used by Transport Direct (2007) to estimate the CO_2 emissions of different cars. Transport Direct runs a website offering travel information for door-to-door journeys by public transport and the car around Britain. It allows users to compare different transport options.

is basing this assumption on the average figures quoted above but with these caveats in mind.

If climate change is of concern then these figures are particularly important when compared with the travel behaviour of society in the UK, which, as illustrated in Table 2 (below), is dominated by use of the car (both as a driver and as a passenger and with respect to the distance travelled and number of trips). Further, according to UK Trade and Investment (www.ukinvest.gov.uk), the new car market regularly totals around 2.45 to 2.5 million registrations a year suggesting that the dominance of the car is likely to continue.

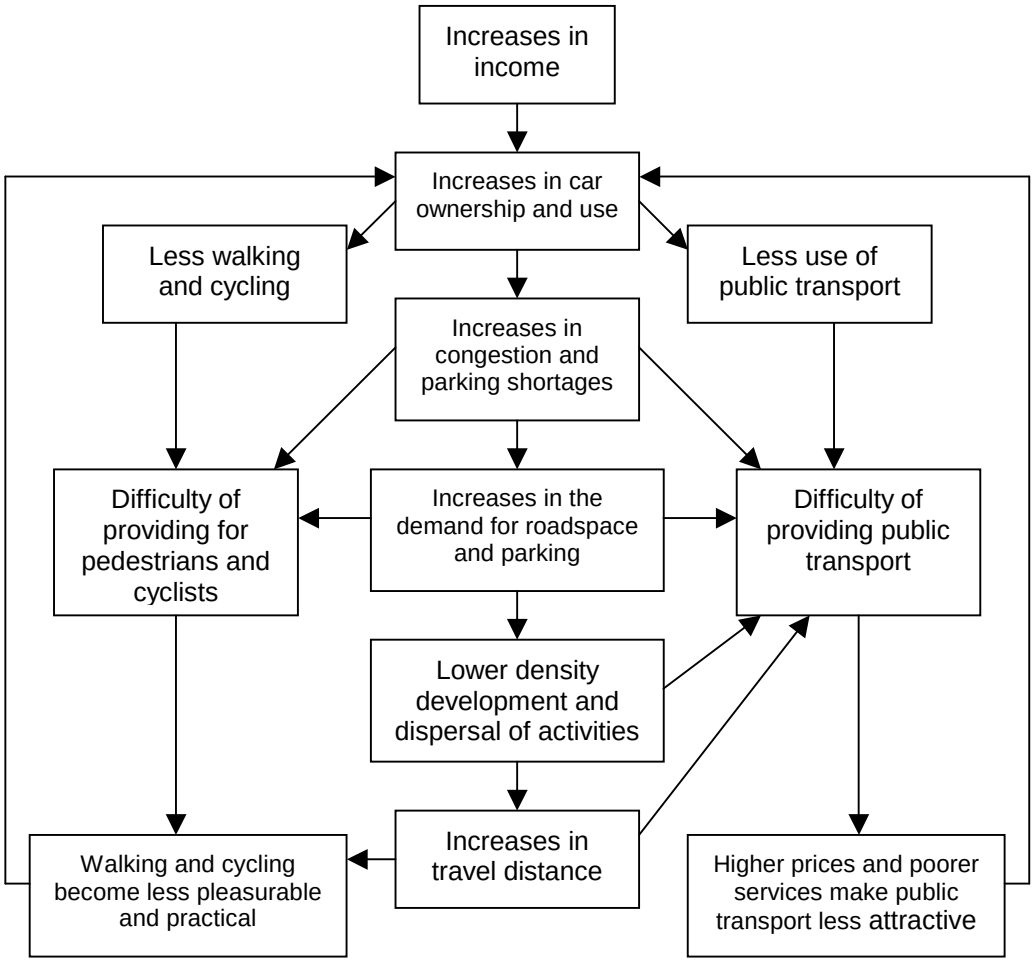
Figure 2 (page 16) (Stead, 2000) suggests that income is key to this trend. As more people purchase and use cars to meet their independent mobility needs, less people will walk, cycle or use (and therefore invest in) public transport. At the same time, the perpetual increase in cars added to the road leads to traffic congestion, pressure for road space and a decrease in the availability of parking. This contributes to difficulties in providing reliable public transport and safe facilities for pedestrians and cyclists. Therefore, the pursuit of *independence via* the car has actually led to a public *dependent on* the car to meet their mobility-needs (as discussed by Goodwin, 1995).

Table 2: Average distance travelled and average number of trips per person per year by mode (using data from DfT (2007d))

	Average distance travelled (miles per person per year)	Number of Trips (per person per year)
	2006	**2006**
Walking	201	249
Cycling	39	16
All bus*	390	73
Train	461	16
Car (driver)	3660	430
Car (passenger)	2033	228
TOTAL	**6784**	**1012**

* Including private bus hire, local bus and bus in London

Figure 2: The interaction of driving forces behind land use trends (from Stead, 2000)



Tolley and Hallsworth (1997) suggest that society's continued use of the car is also led by 'game playing' - trying to second guess how others will act so that they can maximise the benefits to themselves. The concept of 'Game Theory', also referred to as the 'Social Dilemma' (Garling et al. 2002) may be at the root of societal attitudes that say 'I'm not a sucker: I will give up my car when everyone else does the same'. As discussed later in this thesis, people may believe that their own actions are insignificant when it comes to changing society's impact on (for example) the environment, and therefore continue with their behaviour (e.g. use of the car) and make life as easy as possible for themselves. Further to this, people's positive social perceptions of the car (related to personal image and status – also discussed later in this thesis) influence their attitudes towards this mode. The car was first used by the upper classes and thus originated as a symbol of freedom, independence and status (Diekstra and Kroon,

1997). This image remains, enhanced by the billions of pounds spent each year on marketing by car-companies around the world.

Thus, it can be said that the car dominates not only the UK's transport system, but also the travel behaviour of society - its importance entrenched in society's psyche. However, to reduce the impact of society's travel behaviour on climate change it would appear necessary to reduce society's use of the car and increase use of more environmentally friendly modes. As such, this thesis first turns to a consideration of the political response to climate change (and the link between this and transport), followed by a discussion of the degree to which people have made, or appear willing to make, changes in their travel behaviour in light of this issue.

2.3. Climate change: a political perspective

The political attention given to climate change is increasing, particularly since the Kyoto protocol came into force on 16 February 2005. This protocol has set mandatory targets on greenhouse-gas emissions for the world's leading economies that have accepted it. According to UNFCC (2007b),

> "These targets range from -8 per cent to +10 per cent of the countries' individual 1990 emissions levels "with a view to reducing their overall emissions of such gases by at least 5 per cent below existing 1990 levels in the commitment period 2008 to 2012."" (UNFCC, 2007b)

The treaty was negotiated in Kyoto Japan in December 1997, opened for signature on 16 March, 1998 and closed on 15 March, 1999. However, the global response to this has been mixed, particularly within the most economically powerful nations. By December 2006, a total of 169 countries and other governmental entities had ratified the agreement, with the notable exception of the United States who, although a signatory, has neither ratified nor withdrawn from the protocol. The US was, as of 2005, the largest single emitter of CO_2 from the burning of fossil fuels, closely followed

by China[16]. Nonetheless, although China has ratified the Kyoto protocol, they are not required to reduce carbon emissions under the present agreement.

In contrast to this, the energy policy of the UK Government fully endorses the Kyoto targets for carbon dioxide emissions reduction. In March 2006 Defra published "Climate Change: The UK Programme 2006" (Defra, 2006a) in which the Government claimed to be on target (and beyond) to meets its commitment to reduce greenhouse gases by 12.5 per cent below 1990 levels by 2008-2012, and to be heading towards 20 per cent below 1990 levels by 2010 even without the new measures set out in the programme. However, as reported in The Guardian Newspaper (Adam and Macalister 2006), in March 2006 the Government received criticism from scientists, environmental campaigners and opposition politicians when Margaret Beckett (the Environmental Secretary at the time) confirmed that the measures used to reduce CO_2 emissions are now projected to cut such pollution by 15-18 per cent by 2010 rather than 20 per cent below 1990 levels - thus illustrating the difficulty in making progress with regards this issue. Nevertheless, the draft Climate Change Bill (accessed via www.defra.gov.uk) published on 13 March, 2007 illustrates the Government's continued commitment to tackling climate change - pointing to its aim to reduce carbon dioxide emissions (as opposed to all greenhouses gases) on a scale of 60% by 2050 and 26-32% by 2020 (against a 1990 baseline).

In achieving this (on a domestic scale) the Government aims to work with the energy supply sector, the business sector, public sector, local government, the agriculture, forestry and land management sector, and most importantly with regards the present thesis, the transport sector (Defra, 2006a). The Government has designed policies aiming to reduce CO_2 emissions from transport by 1.7 million tonnes per annum by 2010 and these target the three key variables on which carbon dioxide emissions from transport depend:

- The fossil fuel carbon content of road transport;
- The fuel efficiency of vehicles; and
- The need to move towards more environmentally friendly means of transport (as defined previously).

(Defra, 2006a)

[16] Although according to the Netherlands Environmental Assessment Agency (2007), China is now top of the table.

The specific policies outlined are wide-ranging - some working in partnership with local authorities and non-governmental organisations and charities, as well as those targeting the individual. Methods are fiscal and non-fiscal, and use both 'hard' and 'soft' measures. Hard measures include physical improvements to transport infrastructure or operations, traffic engineering, control of road space and changes in price (DfT, 2004b). In contrast, soft measures emphasise management and marketing activities rather than operations and investment – often addressing psychological motivations for travel choice as well as economic ones[17].

In aiming to reduce the fossil fuel carbon content of road transport the Government is supporting and promoting investment in and uptake of biofuels[18], both by fuel companies and by the individual driver. In 2008-09 it plans to introduce a Renewable Transport Fuel Obligation (RTFO) that requires fuel suppliers ensure a set percentage of their sales are from a renewable source (5 per cent by 2010). According to Defra (2006a), the Government is also working to promote hydrogen fuel cells[19], as well as supporting the development of an alternative re-fuelling infrastructure by funding for hydrogen, electric, bio-ethanol and natural gas/biogas[20] refuelling points for example.

In targeting the fuel efficiency of vehicles, Defra (2006a) has identified a steady progress in improving the average fuel efficiency of new cars sold in the UK, where those sold in 2004 were an average 10 per cent more fuel-efficient than in 1997. However, the rate of progress has slowed in recent years. New cars sold in 2005 were only 0.9 per cent more fuel efficient on average than new cars sold in 2004 and there is

[17] However, it is important to recognise that a number of these policies (both hard and soft) are not necessarily developed and implemented solely for the purpose of reducing greenhouse gas emissions in relation to transport. Reducing our reliance on the car (and motorised mobility in general) is also linked to issues including safety (see Sonkin et al, 2006; Gray, 2001; DfT, 2007a), health (see Wen et al., 2006; Frumkin, 2002; DfT, 2007b) and social exclusion (see SEU (Social Exclusion Unit), 2003; Transport2000, 2007; DfT, 2007c).

[18] According to Demirbas (2007), "The term bio-fuel is referred to as liquid or gaseous fuels for the transport sector that are predominantly produced from biomass…it is a renewable resource…resulting is no net release of carbon dioxide".

[19] By combining hydrogen fuel with oxygen, fuel cells can produce electric power while emitting only pure water as exhaust.

[20] According to the Energy Saving Trust (2007), "Biogas is a renewable alternative fuel, which is produced by breaking down organic matter by a process of microbiological activity. Basically this means that rotting municipal waste, food waste or sewage (both human and animal) is turned into gas by means of "anaerobic conversion" in a digester. Methane is the main component of natural gas. It is generally accepted that Biogas gives an average of 95% carbon dioxide reduction (well to wheel) in comparison to diesel, as well as 80% lower nitrous oxide emissions. Plus, it also has zero particulate emissions."

also an increasing split between the company car-market where average emissions of new vehicles continue to fall, and that for private cars, where progress has stagnated. One explanation for this is that although the efficiency of new cars continues to improve, due to the period of economic growth over the last decade in the UK, a number of consumers are choosing to buy larger but less efficient cars – thus cancelling out the improvements made in the smaller and more efficient cars driven by others and/ or previously by themselves (an issue discussed by Thomas, 2004).

In response to this limited improvement in car-efficiency, drivers are being encouraged to reduce their use of the car and increase use of more environmentally friendly modes. In doing so, the Government has employed measures working with local authorities (who in turn work with communities, schools, businesses and individuals) and in partnership with non-governmental organisations such as Sustrans[21]. Specific harder measures include vehicle taxation to support the move to lower carbon transport[22], parking controls, congestion charging, road pricing, and bus and cycle lane implementation. Specific softer measures include personalised travel planning; public transport information and marketing; travel awareness campaigns; car clubs; car sharing schemes; teleworking; teleconferencing; workplace travel plans; and school travel plans[23].

With these policy aims and the overwhelming dominance of the car in mind, it is considered necessary to more clearly define what it meant by this thesis when referring to 'the need for society to move away from use of the car towards use of more environmentally friendly modes'. It is unrealistic to assume it is possible for society to give up use of the car altogether. Thus, in identifying the extent to which use of the car may be reduced, of particular interest to this thesis is the concept of "excess" (Handy et al., 2005) or "less necessary" (Goodwin, 1995) use of the car. Handy et al. define excess driving as,

[21] Sustrans (see www.sustrans.org.uk) is a sustainable transport society based in Bristol (UK), aiming to promote and enable members of society to choose to travel in ways that benefit their health and the environment.
[22] A higher band of Vehicle Exercise Duty (VED) has been set at £400 in 2008/09 and a reduction in the VED for low-carbon band B cars to £35 in 2007/08 to assist the development of the low carbon vehicles market (HM Treasury, 2007).
[23] Although the two latter examples also include 'hard' elements such as parking management and the development of bicycle-storage facilities.

> "…driving beyond that required for household maintenance *given* choices about residential location, job location, and activity participation. The required level of driving can be defined more specifically as the minimum number of trips using the shortest routes to the closest destinations possible and using modes other than the car as often as possible." (Handy et al., 2005)

However, Handy et al. also recognise the limitations of this definition, highlighting that an individual's "minimum" requirements are very difficult to define – a criticism upheld by this thesis. Providing a less explicit, but more workable concept, Goodwin (1995) refers to 'less necessary' driving and in doing so suggests an approach to transport policy that takes into account that car dependence can be very strong, but varies in intensity. Goodwin suggests two extremes in this intensity, 20% at one end of the scale where car journeys are "unarguably necessary, fixed in origin, destination and time of day, and have to be done by car", but at the other extreme a marginal proportion of journeys which do not really have to be made at all, or could be made using more environmentally friendly modes. The proportion in the middle sees journeys that represent a wide variation in car dependence and Goodwin explains that within this,

> "For a significant proportion, a combination of physical and time constraints, and poor quality alternatives, makes the choice of using a car rational to the individual… For these, the task of reducing the degree of dependence requires either very substantial improvements to alternatives, which is expensive, or more substantial changes to life-style, which takes time. However, for another significant proportion the degree of dependence is less, and can be reduced by smaller (albeit still substantial) improvements in alternatives or less dramatic changes in attitudes and behaviour." (Goodwin, 1995)

As such, Goodwin argues that in the first instance policy should be aimed at "less necessary" use of the car, or that which could be easily substituted for other less damaging modes (with regards climate change in the context of this thesis), via a combination of improvements to the infrastructure supporting these modes (i.e. walking, cycling, the bus, and the train) and efforts to influence attitudes and behaviour. In this thesis it is assumed that there are opportunities for people to reduce car use although these will vary significantly between people. The idea of less necessary use

of the car was introduced to young people, via group discussions (detailed in Chapter Six), as a means of encouraging them to consider their own current and future car use.

In turn, an important factor with respect to the development and implementation of transport policy (in light of reducing use of the car and increasing use of environmentally friendly modes) is a clear understanding of society's attitudes towards transport - as noted by Goodwin (above) and DfT's publication "Options for monitoring public attitudes to transport issues" (Jowell, 2006),

> "The importance of understanding and measuring public attitudes is increasingly recognised by the Department. In particular, attitudinal evidence is essential for the delivery of better, more customer-focused services… and it is key to our understanding of travel choices and behaviours." *(Gillian Smith; cited in Jowell, 2006)*

In addition, as a democratically elected government, positive public reaction to policy is paramount in retaining votes and therefore the power to implement such changes. In this sense, a clear understanding of society's attitudes towards transport is important for two reasons, firstly in order to understand and influence society's current and intended transport-related behaviour and secondly to predict society's response to enforced behaviour change via transport-related policy. As such, the following section considers the public response to the link between transport and climate change in the UK.

2.4. Climate change – the public response

According to Weart (2006a) the public did not become concerned about climate change until the early 1970s and it was not until the exceptionally hot summer of 1988 that this concern became more prominent. Reflecting this, studies including an analysis of public concern about climate change did not surface until the 1980s. Such studies have increased in number in recent years (Anable et al., 2006), although public attitudes towards the contribution of transport towards climate change were not studied

specifically (i.e. acting as the sole focus of a study) until DfT's study "Attitudes to climate change and the impact of transport" (DfT/ONS 2006[24]).

According to Anable et al. (2006) (who report on a review of the evidence base regarding public attitudes towards transport and climate change) public awareness of climate change, at a basic level, is currently exceptionally high in the UK (with respect to the adult[25] population). For example, surveys by Defra (2002)[26] and BBC/ICM (2004)[27] found that 99% and 98% (respectively) of respondents had heard of the concepts of 'climate change' or 'global warming' or 'the greenhouse effect'[28]. A number of studies have also found that the majority of respondents (84% or above) believe that the Earth's climate is changing (Defra, 2002; Scottish Executive, 2002[29]; Bibbings/WCC, 2004[30]; and Poortinga et al., 2006[31]) and that they express a high level of concern about this. For example, 82% of respondents in Poortinga et al.'s (2006) study and 81% of respondents in DfT/ONS's (2007)[32] survey were "very concerned" or "fairly concerned" about global warming or climate change.

It also appears that the UK public are able to identify several of the key human activities that contribute to climate change (via CO_2 emissions). For instance, Bibbings/WCC (2004) found that 77 per cent of respondents identified 'burning fossil fuels', 58 per cent identified 'cutting down trees' and 55 per cent pointed to "car use". In addition, 72% of respondents cited car emissions in the DfT/ONS (2007) study.

[24] This report summarises people's attitudes towards the impacts of transport on the environment and climate change. Questions were included in the Office for National Statistics' Omnibus Survey in May 2002. This is a random probability survey of 1,252 adults aged 16 and over, living in private households in England, Wales and Scotland.
[25] The literature reviewed by Anable et al. refers only to studies of people aged 15 or over, the majority being 16 or over. This is an issue discussed further in Chapter Four.
[26] Defra (2002) report on 'The 2001 Survey of public attitude to quality of life and to the environment'. This was conducted among adults aged 18 or over, interviewing over 3,700 people in the nine English Government Office Regions.
[27] BBC/ICM (2004) questioned 1,007 British adults aged 18 or over.
[28] Although it is recognised here that global warming is a specific example of climate change (referring specifically to the increase in the average temperature of the Earth's near-surface air and oceans) and the greenhouse effect is the cause of this warming.
[29] This study surveyed a sample of 4,119 people, aged 16 or older (N. Gormly 2007, pers. Comm., 10th July), throughout Scotland.
[30] This study reports on 988 interviews carried out with participants aged 16 or over across all areas of Wales.
[31] This study was undertaken in Great Britain (England, Scotland and Wales), and involved 1,491 people aged 15 years and older.
[32] DfT/ONS (2007) report on public attitudes towards the environment and climate change in relation to transport, based on questions was first included in the Office for National Statistics' Omnibus Survey in (May, 2005 and August, 2006). 1,238 adults (aged 16 or above) were interviewed.

Thus it would appear that a significant proportion of the public are aware of and concerned about climate change and understand that the car is a key source of CO_2 emissions.

Further, a number of studies have reported that the public are willing to make sacrifices in relation to the environmental impacts of their behaviour. For example, a Guardian/ICM (2006) poll reported that 63% of the respondents approved of a green tax to discourage behaviour that harms the environment and, on average, the participants were willing to spend over £330 to make their homes more environmentally friendly. However, according to Anable et al. (2006),

> "In the context of climate change, it is clear that the level of support for government action diminishes significantly with respect to policies to tackle emissions from transport." (Anable et al., 2006)

For example, Bibbings/WCC (2004) found that travel behaviour was the behaviour fewest respondents were willing to adapt in light of climate change, and when presented with a range of different policy measures, Brook Lyndhurst (2004)[33] found that the majority of participants (68%) only labelled those in relation to changing the way people drive 'unfair'[34] (in this case by increasing fuel prices). This evidence suggests a gap between the public's concern about climate change and their willingness to change their travel behaviour, which is reliant on the car, in light of it. Anable et al. (2006) states that 'attitude-behaviour gaps' such as this are not restricted to travel behaviour and pose "one of the greatest challenges facing the public climate change agenda". It is the aim of the following chapter to discuss why this gap is found, while also establishing where further research may be useful in this context.

[33] Brook Lyndhurst (2004) reports on a quantitative study concerned with the unsustainability of modern lifestyles. 1,015 British adults (aged 18 and over) were interviewed.
[34] The other measures included high VAT on non-energy-saving light bulbs, increase in food prices as a result of banning any food produce that damages the environment and higher council tax for those people who do not recycle.

Chapter Three
Exploring attitude and behaviour theory

3.1. Introduction

Chapter Two established that, in order to reduce the impact of transport on climate change through effective policy and/or behaviour change, it is important to understand the gap between society's concern about climate change and their unwillingness to change their travel behaviour in light of this issue. However, as will be discussed in this chapter, understanding the attitudes and behaviour of society is complex. In attempting to find clarity, this chapter brings together those parts of the attitude and behaviour literature relevant to transport and climate change. In doing so, the concept of attitude and its link to behaviour are explored via an in-depth discussion of the socio-psychological theoretical frameworks that have been, and can be, applied to the study of attitudes and behaviour. As a result, a number of issues are highlighted with respect to the need for further research in this context and attended to in detail during the concluding sections of this chapter.

3.2. The concept of attitude

3.2.1. Defining attitude

As illustrated by Fazio and Olson (2007),

> "It is difficult to imagine a psychological world without attitudes. One would go about daily life without the ability to think in terms of 'good' and 'bad', 'desirable' and 'undesirable', or 'approach' and 'avoid'" (Fazio and Olson, 2007)

Attitudes are fundamentally important to our ability to understand and explain our thoughts, feelings and behaviour. Consequently the concept of attitude has proved

indispensable in social psychology[35]. However, studying attitudes, as noted by Heberlein (1981), is difficult:

> "In a scientific sense it is not clear that attitudes exist. One cannot weigh them, say what color they are, how fast they are, or describe their bio-chemical nature. An attitude is a hypothetical construct about a mental state which is inferred from verbal reports and behavioural observation. As a concept, attitude takes its reality from our own introspection." (Heberlein, 1981)

Attitudes are thus dependant on an individual's personality[36] and, as a consequence, highly subjective. Reflecting this, commonly held clear definitions of attitude are lacking in social psychology. This does not mean that attitudes cannot be studied however, but instead that it is useful to 'deconstruct' attitude. In doing so, it can firstly be said that theorists agree attitudes have an *object* - such as 'walking' or 'reducing use of the car', although the ambiguity of this object can vary. Secondly it is generally agreed that there are two components to attitude, a cognitive dimension, and an affective (or 'emotional') dimension. The cognitive dimension refers to *dispassionate* facts and beliefs (where beliefs may be formed from direct experience and/or outside information and/or inferred). According to Fazio and Olson (2007),

> "An attitude is formed on the basis of cognitions when one comes to believe either that the attitude object possesses (un)desirable attributes, or that the attitude object will bring about (un)desired outcomes." (Fazio and Olson, 2007)

The affective dimension involves feelings, "evoked when considering the attitude object." (Fazio and Olson, 2007)

In addition to beliefs and feelings, attitudes are also agreed to manifest themselves in behaviour, although this is not always the case. For example, a person may have a positive attitude towards cycling to work, based on both beliefs and feelings, but never actually perform this behaviour. Another person may have the same attitude *and*

[35] The field of social psychology was once defined as "the study of attitudes" (Thomas and Zaniecki, 1918, cited in Fazio and Olso, 2007).
[36] Defined here as, "The combination of emotional, intellectual, and moral qualities that distinguishes an individual." (Roget's II: The New Thesaurus, 1995).

behave in a way that corresponds with this (they do cycle to work). Section 3.2.3 considers why the former scenario (i.e., an attitude-behaviour gap) occurs.

3.2.2. Value – a particular kind of attitude

When considering attitudes, it is also important to consider values, in that they are a particular kind of attitude - they also have both a cognitive and an affective component but differ from attitudes in that they are not tied to specific situations or objects. Values tend to be single, stable beliefs, used as standards to evaluate action and attitudes. Thus they transcend attitudes. According to Heberlein (1981),

> "If one holds equality as a value, then this value applies to many different situations, issues, or objects. In contrast, one holds attitudes about particular objects. (Heberlein, 1981)

For example, an individual may value 'the protection of the environment', but due to this *one* value express *two* different attitudes – such as a positive attitude towards cycling instead of using the car and a negative attitude towards driving to the local shops instead of walking. Secondly, Heberlein explains that,

> "…values are most central in a person's belief system. Values are the basis for evaluative beliefs, and other linkages among beliefs." (Heberlein, 1981)

It is because of this centrality that values are particularly difficult to change.

Examples of values are provided by Rokeach (1973, 1979), who identified 18 terminal values (which refer to end-states of existence), such as "happiness" and "freedom", and 18 instrumental values (which refer to ways of behaving), such as "logical" and "obedient". In relation to transport and climate change specifically, values such as "free choice" are particularly relevant - people often consider ownership and use of the car their 'right' and express resentment if their freedom of choice in this context is (in their opinion) unfairly challenged (as found by Jakobsson et al. (2000) in relation to road pricing). Attempting to change a person's values is therefore considered difficult, if not impossible. However, as revealed by this chapter, challenging attitudes may be no easier.

3.2.3. Linking attitudes and behaviour – conceptual frameworks

According to Blaikie (2000), concepts such as those referred to above (i.e. values, attitudes, beliefs, feelings and behaviour),

> "…are regarded as the building blocks of social theories. Theories, in turn, specify the relationships between concepts and why these relationships exist." (Blaikie, 2000)

Reflecting this, theorists have conceptualised attitudes through the development of theoretical (or 'conceptual') frameworks. Historically the most prominent of these is the Tripartite Model (Katz and Stotland, 1959; Rosenberg and Hovland, 1960: both cited in Fazio and Olson, 2007) where 'attitude' is assumed to manifest itself in relevant beliefs, feelings, and behavioural components (Eagly and Chaiken, 1993). However, this model has received criticism for suggesting that the attitude should be manifest in *all* of these components. It is now generally accepted that attitudes may manifest themselves in any one or a combination of these components as noted previously (see Bem, 1972; Chaiken et al., 1995; Fishbein and Ajzen, 1975). In addition, and key to this thesis, the tripartite view also assumes attitude-behaviour consistency, which would appear a somewhat flawed postulation when considering the UK public's unwillingness to change their travel behaviour in light of climate change, despite being concerned about this issue.

During the 1960s and early 1970s this lack of attitude–behaviour correspondence began to receive a great deal of academic attention. Although initially viewed as a problem, researchers such as Fazio (see Regan and Fazio, 1977; Zanna and Fazio, 1982) suggested the answers might lie in questioning not "*whether* attitudes predict behaviour", but instead "*when* do attitudes predict behaviour?" According to Fazio and Oslo (2007),

> "This question has occupied a sizable chunk of the attitude literature and has been addressed from a variety of angles, including characteristics of the individual, the situation, and the attitude itself." (Fazio and Oslo, 2007)

It is this area of attitude and behaviour literature that is of particular relevance to this thesis and there are a number of attitude and behaviour theories applicable in this

context (see Halpern et al., 2004; Jackson, 2005) – thus it focuses on those most relevant to transport and climate change and in doing so explores how and why such theories are currently utilised (or reflected) in current transport policy and initiatives. Concepts and frameworks influencing the individual are considered first, followed by those influencing individuals on an interpersonal level (i.e. between individuals). The following sections also consider whether there are any gaps in knowledge which may be explored in new research.

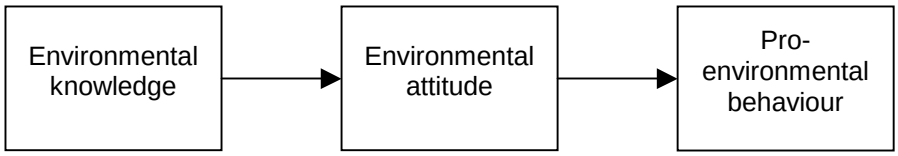
3.3. Theory building in the context of transport and climate change

3.3.1. Focusing on the individual

3.3.1.1. The role of 'knowledge' and information

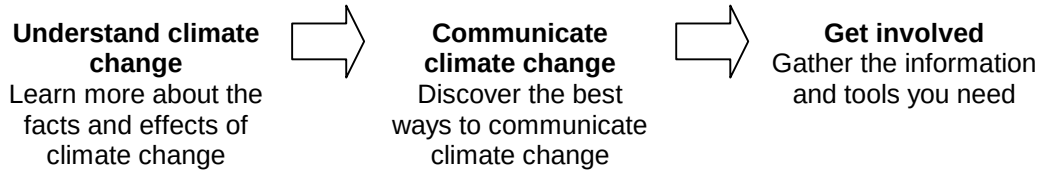
The oldest conceptual models of attitude-behaviour theory, in the context of environmental issues, are the deficit models (e.g. Burgess et al., 1998). As illustrated in Figure 3 below, such models hold that knowledge of the environment leads to environmental concern (environmental attitudes) which in turn leads to pro-environmental behaviour. As such, it was thought that a deficit in knowledge was responsible for a lack of pro-environmental behaviour and if people were aware of the connections between their own behaviour and the impact of this on the environment they would respond *rationally* and change their behaviour accordingly.

Figure 3: Linear deficit model of pro-environmental behaviour (source: Kollmuss and Agyeman, 2002)



Most environmental Non-governmental Organisations (NGOs) concerned with environmental issues follow this model (Kollmuss and Agyman, 2002) and Owens

(2000) points to UK Government campaigns such as "Are You Doing Your Bit"[37] as doing the same. Similarly, it appears that Defra's Climate Change Communications Initiative (CCCI) is designed implicitly around this model – where it is suggested that an understanding of climate change leads to the ability to communicate this understanding and a willingness to take action (Climatechallenge, 2007):



Whilst such campaigns can claim some success in improving awareness and understanding of issues, research suggests that, *alone*, information and exhortation is insufficient in leading to significant behaviour change (Eden, 1996; Hounsham, 2006).

The deficit model also assumes that individuals will behave rationally, as does the Rational Choice Model (RCM). However, the latter model assumes that an individual's behaviour is based on a rational use of not only environmental knowledge, but all the costs and benefits of the behavioural choices available to them (with the maximisation of their utility in mind). This model forms the basis of classic tools of government such as price signals, information and legal punishment, including those used to manage transport demand. However, it appears from the current evidence base that the influences on and connection between attitudes and behaviour is far more complex than a rational cognitive process of decision making. For example, having reviewed relevant literature and consulted with experts in order to understand how to motivate 'green' behaviour, Hounsham (2006) points to a number of other factors in addition to knowledge and rational consideration of facts (i.e. the cognitive component of attitude alone), including the affective component of attitude (i.e. feelings and/ or emotions), as well as factors *beyond* attitudes, such as,

[37] Are You Doing Your Bit? (launched by the UK Government in 1998) is a £25 million publicity campaign aimed at raising environmental awareness and encouraging small but important behavioural changes in society's everyday actions, to benefit themselves and the environment. Promotion includes a series of television adverts supported by national radio, consumer press, 48 sheet posters and bus sides.

> "…habits, personal preferences, fashions, social norms, personal morals and values, peer pressure and other intangibles[38]." (Hounsham, 2006)

To take account of all of these factors would take an extensive change in perspective with regards developing policy and/or initiatives aimed at influencing travel in light of its impact on climate change, although it does appear that policy makers are beginning to recognise such issues. For example, in pointing to the Government's Sustainable Development Strategy (Defra, 2005b), Defra (2006b) identifies a move away from a factual-information-led intervention approach to one of recognising wider factors such as social norms and habits.

At the same time, there is considerable debate about the concept of 'knowledge' (see Kane, 2003; Benthem, 2006; Hoffman and Roth, 2005) suggesting that it is too broad a concept, encompassing a range of important factors such as beliefs, judgements and expectations (Wiig, 1993) that should be considered individually. As such, the present thesis considers each of these factors in turn and refers to 'understanding' instead of knowledge[39]. By 'understanding' it points to an individual's grasp of climate change via the information and/or 'signals' (such as the influence of other people's behaviour rather than specific, targeted information) they have received and interpreted in relation to it (which may be factual or otherwise[40])), but it is recognised that this understanding is not value/belief free.

3.3.1.2. The importance of 'understanding' climate change

Although it is now agreed by academics and policy-makers that a rational understanding of factual information is not the *only* barrier to behaviour change (as noted above) it has been asserted that such an understanding is a necessary precondition to environmental attitudes in particular (Kaiser *et al.* 1999), including those towards tackling climate change. In addition, it is has been asserted that if society (as a whole) lacks even a basic understanding of such issues, it can be difficult to present

[38] Each of which will be discussed further in the remainder of this chapter.
[39] As done so by Climatechallenge (2007) above.
[40] By 'otherwise' this thesis refers to the difficulty of defining what is meant by 'fact'. Does it relate to scientific fact, or truth? In both cases, the basis for such facts remains questionable. As such, all information, irrespective of whether one individual considers this to be factual and another does not, is deemed equally influential with regards an individual's understanding of, and beliefs about, the subject in question.

them as an important policy goal (see Bibbings/WCC, 2004; Lowe et al., 2005*)*. With this in mind, it appears necessary to establish exactly what the level of understanding of these issues is amongst the UK population.

As noted in Chapter Two, the majority of people in the UK recognise the concept of climate change and believe the Earth's climate is changing. However, from Anable et al.'s (2006) review it appears that, although 80% of adults believe this to be the case, only two thirds are convinced it is linked to human activity, illustrating the uncertainty felt by society regarding the causes of climate change. Several other researchers also talk of the public's confusion in this respect (Lorenzoni and Langford, 2001; Lowe et al., 2005; Poortinga and Pidgeon, 2003). For example, MORI (2002, cited in MORI, 2004) found that two thirds of the UK population were unable to name carbon dioxide as the gas that most contributes to climate change and a number of other studies report on a misperception (held by the majority of people) that the thinning of the ozone layer is an important cause of climate change (Scottish Executive, 2002; Portinga et al., 2006; Lane, 2000). Darton (2005) also notes that the public tend not to associate the consequences of climate change with themselves, instead believing that the effects will be felt by people in other countries, or future generations. Overall Darton (2005) suggests that a public recognition of the link between climate change and human activity,

> "…is made more as an act of faith than from a keen understanding of the factors driving climate change." (Darton, 2005)

However, other studies have found that the public are at least aware that climate change is a risk, even if they are not motivated to act. For example, Poortinga et al. (2006) found that 77% of respondents agree or strongly agree that climate change poses risks to people in Britain. Similarly, Bibbings and WCC (2004) report that 66% of respondents agreed strongly or agreed slightly that climate change could have serious consequences for their way of life. Nevertheless, Anable et al. (2006) suggests that there is little insight in the literature regarding the public's *sophisticated* understanding of climate change, in relation to issues such as,

> "…why it is that reducing emissions significantly still results in increasing CO_2 levels and continuing warming, the difference between incremental and abrupt

> climate change, the positive feedback within global climate systems, and delays between carbon emissions and temperature rise." (Anable et al., 2006)

Anable et al. (2006) also found that people express a keenness for more information provision regarding climate change, which could reflect those findings reported by NFO System Three (2002) where it is noted that many individuals are not aware of the individual actions they can take. With respect to further research in this particular area, Anable et al. consider that more *participatory* methods (as discussed in Chapters Five and Six) should be utilised[41] and that such research should aim to determine exactly what *type* of information people require (particularly when it is in relation to solving climate change, rather than about the issue in general).

Studies specifically aimed at exploring the public's understanding of *transport* and climate change are limited, although just over half of the participants involved in studies by Bibbings/WCC (2004) and Scottish Executive (2002) identified road transport as a contributor to climate change (55% and 52% respectively). Nonetheless, Bibbings/WCC suggests this relatively low identification could be attributed to 'wilful ignorance' in order to avoid having to change their transport-related behaviour away from the car. In contrast, DfT/ONS (2007) found that 80% of people identified the car as a major contributor to climate change and further to this, 78% referred to vans and lorries, 62% referred to buses and coaches and 24% pointed to the train. These results can be said to 'mirror' the order in which these modes can be considered environmentally damaging (in relation to their contribution to climate change) as noted in Chapter Two.

Although the differences in these findings may be a symptom of different survey approaches, it would appear that society is perhaps unsure of the relationship between transport and climate change (just as they express a degree of confusion in relation to climate change in isolation). For example, DfT (2005b)[42] found that,

[41] In explaining why this is the case, Anable et al. point to difficulties in attempting to establish such an understanding using self-completed questionnaires where there is nothing for people to lose in overclaiming that they require more information, and where there is no opportunity to explain and/or discuss with others what this new information might look like. This would be possible if using discussion groups, as discussed in Chapter Five.

[42] This study explored the types of label format that are most effective in informing consumers of the environmental performance of cars.

> "The relationship between inputs (fuel) and outputs (emissions) is only very generally - if at all - understood by most drivers. There is a poor understanding of the relationship between carbon dioxide emissions and fuel consumption. For many, being green is all about fuel economy[43], not carbon emissions." (DfT, 2005b)

Further, according to Lane and Potter (2007),

> "…the evidence is clear that consumers of all types have very poor technical understanding of low carbon technologies… Examples include the following: *LPG is "very dangerous"*; *hybrid electric cars have "limited range"; and "need a special power point" to recharge*." (Lane and Potter, 2007)

Thus, overall it would appear that there is a need to improve society's understanding of climate change, and the link between this and transport. In doing so, it is also important to identify where society receives information and signals about these issues, whether they received 'mixed messages' and if they do, which messages and what sources of information and signals are listened to in particular.

It is assumed that information and signals about climate change can come from a number of sources and that these could provide messages that are at odds with each other, depending on the information being presented. For example, a number of studies agree that the general public gains most information about the science and politics of climate change from the mass media (Ungar, 2000; Bedford et al., 2004; Lowe et al., 2005; Hounsham, 2006), but that information provided by car-marketing campaigns, (also delivered through the media) can contradict that received by individuals in relation to tackling climate change. Car manufacturers establish and retain a positive image of cars, creating an image away from the reality of driving, and present it as a possession rather than as a mode of transport (Pristo, 2000/01). When interpreting such information and signals, the urgency of climate change may become confused with the desire to drive and/or own a car. Marshall (2005) considers this contradiction,

[43] In relation to 'saving energy' - in isolation of the reduction in carbon emissions also achieved by reducing use of fuel.

> "…a minor reflection of a far wider, more profound and sustained disconnection at all levels of society between the seriousness of the threat of climate change and the action that we take in response." (Marshall, 2005)

It is also recognised (by this thesis) that, with further investigation, it may be possible to better understand the role played by sources of information and signals other than the media, such as those related to Government- and NGO-based educational campaigns and information provision (including DfT's (2007e) "Smarter Choices"[44] and Sustrans' (2007b) "Active Travel"[45]), promotional material released by public transport companies, and family and friends – the latter being an important but often overlooked source of information and signals, particularly in the case of young people. Those people below the age of 16 (and often up to the age of 18) may also be influenced by the information and signals they receive at school or college.

3.3.1.3. The Theory of Planned Behaviour

Where the deficit model is the *oldest* conceptual model of attitude-behaviour theory, the *leading* models, for the past quarter of a century, have been the Theory of Reasoned Action (TRA: Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975) and its extension, the Theory of Planned Behaviour (TPB; Ajzen, 1991; Ajzen and Fishbein, 2000). According to Anable et al., the latter model is,

> "…by far the most common and influential theory used to explore the attitude-behaviour gap for innumerable behaviours in the social, environmental, and health psychology fields." (Anable et al. 2006)

It would therefore appear useful to apply this theory when attempting to understand the attitude-behaviour gap in relation to transport and climate change (and as explored with respect to other transport aspects by Beale and Bonsall, 2007[46]; Thogerson, 2006[47];

[44] According to DfT (2007e), "Smarter Choices are techniques for influencing people's travel behaviour towards more sustainable options such as encouraging school, workplace and individualised travel planning. They also seek to improve public transport and marketing services such as travel awareness campaigns, setting up websites for car share schemes, supporting car clubs and encouraging teleworking."
[45] According to Sustrans (2007b)**, "**Active Travel works with policy-makers and practitioners to promote walking and cycling as health-enhancing physical activity."
[46] This study explored the extent to which the low and declining use of bus services reflected overly negative public perceptions of buses and whether people might increase their use of bus

Lam and Hsu, 2006;[48] and Anable, 2005[49]), although Anable et al. consider it has been underused in the development of transport policy to date.

As summarised by Bamberg and Schmidt (2003), the TPB (as illustrated in Figure 4, page 37) assumes that in choosing a behaviour, individuals take into account the following factors:

- ***Behavioural beliefs*** about the likely outcome of behaving in a certain way (such as the monetary cost of using the bus, or reduction in greenhouse emissions caused by cycling to work instead of driving), which lead to the formation of **attitudes** towards the behaviour.
- ***Normative Beliefs*** about the expectations of other individuals or groups (such as peer pressure felt in relation to learning to drive) which lead to the formation of **subjective or 'social' norms** with respect to the behaviour[50].
- ***Control Beliefs*** about the required resources and potential obstacles to behave in the manner chosen (such as having enough money to drive a car or having access to a bus service) which influence the level of **perceived behavioural control**[51] (PBC) an individual feels they have to perform the behaviour.

As a result, it is assumed that,

> "…people form behavioural intentions based on their attitudes, subjective norms, and perceptions of behavioural control and that these intentions are the immediate determinants of behaviour." (Bamberg and Schmidt, 2003)

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services if key misperceptions could be "corrected". The paper illustrates how psychological insights from the TPB helped the authors to understand the impacts of the marketing material used.

[47] This study uses the TPB, as well as other theoretical models, to construct a conceptual framework for studying repetitive transport behaviour and to analyse the temporal dynamics of the use of public transport.

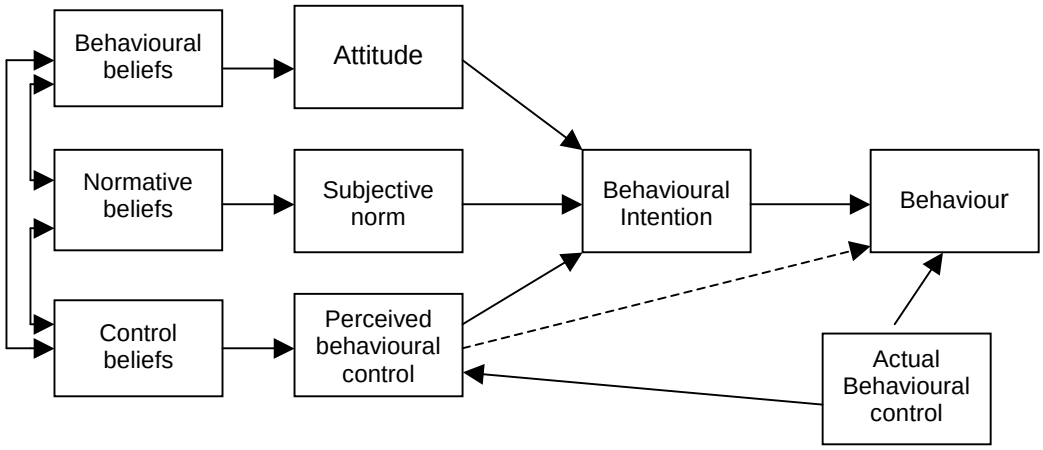
[48] Lam and Hsu (2006) tested the applicability of the TPB (with the addition of a past behaviour variable) on behavioural intention when choosing a travel destination.

[49] This study used the TPB to study a population of day trip travellers to determine that "the same behaviour can take place for different reasons and that the same attitudes can lead to different behaviours." (Anable, 2005).

[50] According to Armitage and Conner (2001), "If an individual perceives that significant others endorse (or disapprove of) the behaviour, they are more (or less) likely to intend to perform it."

[51] The TRA assumed that behaviour intention was influenced only by attitude and subjective norm, thus PBC represents the way in which the TPB expanded on the TRA (Ajzen and Fishbein, 1980).

Figure 4. The theory of planned behaviour (source: Ajzen, 1991)



In addition, according to Aizen[52] (2007), behaviour and perceived behavioural control are also influenced by *actual behavioural control* (ABC), which refers to,

> "…the extent to which a person has the skills, resources, and other prerequisites needed to perform a given behaviour" (Aizen, 2007)

'Resources' include the transport options available to the individual and therefore demographic factors such as their income and residential location. As such, ABC is distinct from PBC in that the elements of control referred to lay in fact (e.g. there is no bus service to school), rather than a perception of fact held by the individual (e.g. a person believes there is no bus service to school). PBC is perhaps of greater psychological interest than ABC because it is often the cause of people overestimating the inconvenience of behaving in a more environmentally friendly manner (although both are held to explain why behavioural intentions do not always predict actual behaviour). Further, according to Anable et al. (2006) if people perceive they have no choice but to use the car, information about its consequences (such as the impact of transport on climate change) is unlikely to influence their behaviour even if this perception does not correspond to their modal choice in reality. However, Anable et al. consider little research has been carried out to examine the beliefs underlying PBC in order to explore why people do or do not feel control over their travel behaviour.

[52] Ajzen recently changed his name to Aizen.

With this research-gap in mind, a particularly important control belief in relation to environmental behaviours is 'self-efficacy' (Bandura, 1977; 1986), which suggests that people's ability to successfully execute an action is determined by their belief in their ability to do so. If these beliefs are strong then people will produce more effective coping strategies, higher levels of achievement and the ability to persist in their actions, than those showing lower levels of belief in their abilities[53]. For example, Axelrod and Lehman (1993) and Grob (1995) (both cited in Anable et al., 2006) report that people are more likely to engage in environmentally less damaging behaviour when they believe they have the ability to help solve environmental problems by doing so. Further, Steg and Sievers (2000) reported that individuals who *believed* they could have an effect on the environment by reducing their car use (i.e. they had a sense of self efficacy in this context), used other modes of transport more often than those who believed such efforts are futile (i.e. had no sense of self-efficacy in this context) [54].

However, in the case of climate change specifically, Alexander Ballard and Associates[55] (2005) found that, although people are aware of the importance of climate change on a subconscious level, they do not feel capable of making a difference to this issue in reality. As such, they point to the need to provide people with more substantial proof that climate change exists, that such information comes from a person they trust and that it is delivered to people in terms they understand. Again this points to the importance of understanding what and where information about transport and climate change is already being received by individuals (as noted in Section 3.3.1.2.), as well as the importance of understanding the way in which they interpret this information in *their own words* via conversation, or in writing. Nonetheless, it is recognised that people may still feel a lack of self-efficacy in relation to tackling climate change even with information about (and an understanding of) how to change their behaviour in this context, due to their belief that other people will not act in the same way, thus rendering

[53] Other terms are often used in the literature to describe the same idea, in particular 'locus of control' (e.g. Kollmuss and Agyman, 2002). Individuals with a strong *internal* locus of control believe that their actions can bring about change, whereas those with an *external* locus of control feel that their actions are insignificant and are much less likely to act ecologically (Kollmuss and Agyman, 2002, cited in Anable et al.).

[54] In this study, a computerised questionnaire was sent to 413 participants (aged 18 years or older) representing the Dutch population. As such, it should highlighted that this study, like all research carried out outside the UK (and referred to in this thesis), is likely to have been influenced by different cultural norms (such as family or cultural values). Nonetheless, they remain a useful point of comparison in relation to the socio-psychological impact of the car on people in general, irrespective of other cultural influences.

[55] From this point in the thesis, "Alexander Ballard and Associates" will be shortened to "Alexander Ballard".

their own efforts pointless. This links with the concept of the Social Dilemma (Garling et al. 2002) as noted in Chapter Two and is also considered an issue requiring further exploration.

Beyond the concept of PBC, the TPB as a whole offers several advantages over the deficit model and Rational Choice Model (RCM) (referred to previously) due to the 'additional' concepts included - namely normative beliefs, control beliefs and behaviour intention. However an extensive employment of the TPB in attitude behaviour research[56] provides a substantial evidence base evaluating and criticising the model, from which a number of issues are identified in particular:

- **Behavioural intentions do not equal behavioural enactment**

As noted in Chapter One, the present thesis concentrates on use of the car as a driver and the attitudes of young people at and (the majority) below the age of licence acquisition. Therefore, it can only consider their intention to drive in the future and thus concentrates on those factors influencing behaviour intention, rather than those influencing actual behaviour. The TPB assumes that it is behavioural intention that directly determines behaviour enactment. However, studies (such as Sutton, 1998; Armitage and Conner, 2001) suggest that only 23% to 34% of behaviour variance is accounted for by the TPB, therefore leaving the majority of it unexplained. In other words, strong intentions to travel in a particular way and being in possession of the means to do so do not always guarantee actual behaviour. Other factors, in addition to those included in the TPB, must also play their part.

Nonetheless, this is not to say that behaviour intention is not an important factor in its own right. Without an intention to choose a particular behaviour (which may include driving or use of more environmentally friendly modes), the *opportunity* to choose a behaviour (determined by the actual control factors influencing an individual), by itself, is unlikely to determine whether a person actually 'performs' the behaviour in reality. At the same time, without an intention to choose a behaviour, an individual may not create the opportunity to do so (by, for example, living in close proximity to a train station or bus stop or within cycling or walking distance of their place of work or favourite shopping location (Cao et al. (2006)[57]). Thus, intention and opportunity work in tandem

[56] Armitage and Conner (2001) identify applications of the TPB in 154 different contexts.
[57] Work by Cao et al. (2006) suggests that travel choices, in this case focusing on leisure walking or pedestrian shopping, can be shaped by "residential self-selection".

- opportunities are part formed by intentions and intentions cannot be fulfilled without opportunities.

- **The difficulty of obtaining individually salient beliefs**

The TPB holds that attitudes are determined by an individual's *salient* beliefs[58], but these are hard to determine. As noted by French et al. (2007) there is a clearly specified procedure for developing measures of the constructs of behaviour included in the TPB (described in detail by Ajzen, 2002), however, Towriss (1984) notes that while the TPB suggests the use of *individually* salient beliefs, following Azjen's procedure means that respondents are normally presented with *other people's* beliefs (i.e. modally salient beliefs determined from a pilot study) and therefore other people's words. Thus, as noted by Conner and Armitage (1998), beliefs salient to the individual may not be adequately captured.

As noted previously, understanding an individual's own words and thus the language they use is important when attempting to develop messages about transport and climate change in their terms. Reflecting this belief, DHC (2003) comments,

> "Language evolves, and should therefore not be invented or imposed. Research undertaken for DEFRA (1999; cited in DHC, 2003)) has shown that prescribing a fixed set of words and definitions will not stimulate greater understanding of and engagement with Sustainable Development. This is because the meaning (and level of empathy) which people currently ascribe to sustainable related concepts and issues are diverse and polarised. They are dependent upon any individual's 'world of experience' (social and cultural e.g. upbringing, living conditions, personal status, education, media exposure etc.). (DHC, 2003)

In this sense, there is a need to develop methodologies (beyond those used in relation to the TPB) that allow people to use their own words when describing their attitudes towards transport and towards climate change. Discussion of such methods will be presented in Chapters Five and Six.

[58] According to Conner and Armitage (1998), "it is assumed that a person may possess a large number of beliefs about a particular behaviour, but that at any one time only some of these are likely to be salient." By 'salient beliefs', this thesis refers to those beliefs that are activated from memory in a situation to influence decision making.

- **The importance of emotion**

Again, if following the TPB procedure outlined by Ajzen (2002), it has been suggested that this samples an excessively cognitive subset of beliefs (Wilson et al., 1989) and, as such, they fail to elicit those beliefs that are more difficult to articulate yet potentially more influential with respect to attitude formation (Conner and Armitage, 1998) i.e. those in relation to emotion (the affective dimension of attitude). A number of researchers point to the importance of examining emotion in relation to travel choices and acceptance of transport policy in particular. For example, Anable and Gatersleben (2005)[59] found that, for leisure journeys, participants pointed to the importance of experiencing feelings such as relaxation, a sense of freedom and 'no stress'. Similarly, Handy et al. (2005) carried out a series of focus groups and interviews[60] to discuss the concept of "excess driving"[61] and found that feelings played an important role in the participants' relationship with the car – comments included "I *enjoy* driving, I *love* driving" and "I *hate* errand driving. I *like* open road drives."[62] (Handy et al. (2005). It is also noted by this thesis that an individual's emotional response to transport may be associated with instrumental factors (e.g. security), symbolic factors (e.g. self identity) or social factors (e.g. social norms).

Thus, Goodwin's (1995) suggestion of targeting less necessary driving via "less dramatic changes in attitude" may be more difficult than first seems when taking into account the role that the car plays in the emotional world of the majority of people – the importance of which is noted by Sheller (2004) and Goodwin himself. With specific reference to the car, Goodwin refers to the "emotional arousal" of driving at speed, the association of the car's aesthetics with sexual desire, the car as a "powerful form of physical energy" and cars as a place of security from the outside world. However, to gain a deeper understanding of this issue, Sheller (2004) highlights the need to move research away from statistical quantification of individual preferences, attitudes, and actions, and instead to develop qualitative research models that take into account the

[59] The first study on which this paper is based involved 235 questionnaires completed by participants aged between 20-67 at the University of Surrey. Questions focused on travel to work and the experience of this. The second study applied to day trips to country leisure attractions, specifically to National Trust Properties. 666 questionnaires were analysed. The age of the participants was not given.
[60] The participants involved in this study were aged between 23 and 67 years.
[61] As discussed in Chapter Two.
[62] Further, Steg (2005) carried out a study examining motives for car use and found that affective emotions (such as feelings of pleasure, annoyance, relaxation or stress) played an important role in explaining the level of car use amongst their participants, particularly commuter car use.

affective component of attitude - thus reiterating the importance of understanding an individual's attitudes and/or corresponding actions through their own words, as noted above.

- **The importance of personal moral norms**

Various researchers point to the need to extend the TPB to take account of moral norms[63] (also referred to as "personal norms"). Personal moral norms prescribe that certain behaviours are inherently right or wrong, regardless of their personal or social consequences,

> "…moral norms are feelings that are generated in the absence of persuasion or expectation, although perceived expectations of significant others (social norms) can function to intensify moral obligation." (Anable et al., 2006)

A number of studies have shown that the addition of personal moral norms to the TPB leads to a better explanation of intentions and behaviours involving a moral dimension in areas such as traffic violations (Manstead, 2000; Sparks and Shepherd, 2002), recycling (Guagnano et al., 1995; Thogersen, 1996) and environmentally friendly buying (Thogersen, 1996). More specifically, in relation to increasing the willingness of people to reduce use of the car and increase use of more environmentally friendly modes of transport, several studies have also pointed to personal moral norm as an important influencing factor. For example, Anable (2005) found that a high level of perceived obligation to change travel behaviour in light of the impact of transport on climate change (combined with a low level of perceived barriers to such change) was associated with lower driving frequency[64]. Similarly, Nordlund and Garvill (2002)[65]

[63] In the first empirical study published on the TPB (by Ajzen and Fishbein, 1969), personal normative beliefs were considered, but felt unnecessary due to their correlation with behavioural intention. The personal/moral norm was therefore removed from the model (Harland et al., 1999).

[64] This study used an expanded version of the TPB to segment a population of day trip travellers into potential 'mode switchers' using cluster analysis. A mail-back questionnaire survey was used, representing 666 visitors to National Trust properties in the northwest of the UK. The questionnaire was constructed using multiple overlapping attitude statements hypothesised to pertain to each of the components in a conceptual model, including moral norm.

[65] Nordlund and Garvill (2002) tested a hierarchical model of the effects of general values, environmental values, problem awareness and personal norms on proenvironmental behaviour. As such, 1,414 randomly selected residents aged between 18 and 65 years in Umea, Sweden completed a mail-back survey.

found that personal moral norms had significant effects on intentions and self-reported use of non-car modes[66].

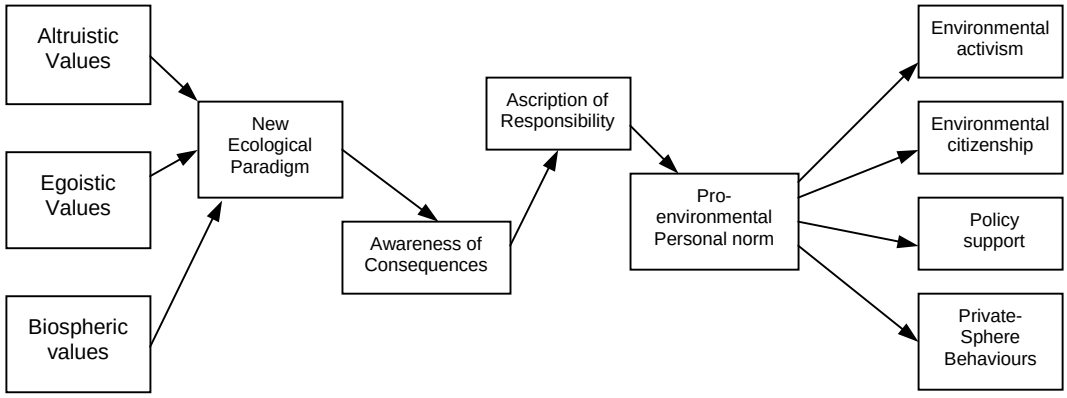
In contrast to the TPB in its original form, both the Norm Activation Theory (NAT) (Schwartz, 1977) and the Value Belief Norm (VBN) theory *do* include a construct of personal moral norms. The NAT holds that altruistic (including pro-environmental) behaviour occurs in response to personal moral norms (PN) and that these are activated in individuals who believe that particular conditions pose threats to others (awareness of adverse consequences (AC) – such as the risk of climate change) and that their influence on overt action (such as reducing use of the car, or buying an alternative fuel vehicle) could avert those consequences (ascription of responsibility (AR)). A substantial evidence base has developed to support the NAT's applicability to a range of environmental issues (including Black et al., 1985; Hopper and Nielsen, 1991[67]).

In expanding on the NAT, the VBN theory (as illustrated in Figure 5 on page 44) adds in values. Therefore it postulates that environmental behaviour is linked to values through a causal chain of intermediate variables and it is held that personal norms are the ultimate predictor of behaviour (such as environmental 'citizenship' or 'activism'). These variables are: one's self-ascribed responsibility, one's awareness of the consequences of a behaviour for the valued object, and one's ecological worldview (i.e. the new environmental paradigm (NEP)[68]), which in turn is determined by environment-relevant values related to the self (egoistic values), others (altruistic values) and the

[66] Similar findings were made by Harland et al. (1999).
[67] Hopper and Nielsen (1991) carried out a study of residents in a large urban neighbourhood with a community wide curbside recycling program in order to determine the extent to which recycling could be conceptualised as altruistic behaviour. Results confirmed that the recycling behaviour in this area was consistent with the NAT – being influenced by social norms, personal norms, and awareness of consequences.
[68] In the mid-1970s Dunlap and Van Liere argued that, within environmentalism, there was a challenge to our fundamental views about nature and humans' relationship to it. Their conceptualization of what they called the New Environmental Paradigm (NEP) focused on beliefs about humanity's ability to upset the balance of nature, the existence of limits to growth for human societies, and humanity's right to rule over the rest of nature. According to Dunlap et al. (2000), Dunlap and Van Liere "found that a set of 12 Likert items measuring these three facets of the new social paradigm or worldview exhibited a good deal of internal consistency and strongly discriminated between known environmentalists and the general public. Consequently, they argued that the items could legitimately be treated as a New Environmental Paradigm Scale, and found that endorsement of the NEP was, as expected, negatively related to endorsement of the Dominant Social Paradigm (Dunlap & Van Liere, 1984 cited in Dunlap et al., 2000)." A revised NEP scale was designed in 2000, by Dunlap et al. (2000), consisting of 15 items.

biosphere (biospheric values). According to Kollmuss and Agyeman (2002), everyone has all three of these values but in different strengths. As such, most studies (including Bardi and Schwartz, 2003; Garling et al., 2003; and Kerp, 1996) conclude that people with a dominating altruistic or biospheric value orientation have stronger proenvironmental beliefs and are more likely to engage in proenvironmental behaviour than people who strongly prefer egoistic values. However, it appears that the VBN has not been applied to studies exploring attitudes towards transport and climate change. Studies in this context have instead concentrated on the role of norms, as referred to the TPB and focused upon in the NAT. Consequently, it is held by this thesis that an exploration of the values held by society in this context is necessary.

Figure 5: A schematic model of variables in the Value-Belief-Norm theory as applied to environmentalism (Stern et al., 1999)



- **The role of habit**

As discussed by Aarts and Djiksterhuis (2000) and Bamberg and Schmidt, (2003), travel behaviour can become habitual, or contain a level of automaticity, thus removing it from rational-choice as assumed by the TPB. This is discussed in detail in Section 3.3.1.4. below.

- **The ambiguity of "climate change"**

Anable et al. (2006) considers the TPB particularly inappropriate in assessing "attitudes towards transport and climate change" due to the ambiguity surrounding climate change as a concept. They argue that, in the majority of studies, climate change is an object forced on the respondent which may or may not make sense to them (for example, is it pollution? Is it sea level rise? Does it occur locally or globally?). The

present thesis upholds this criticism and also questions whether 'climate change', 'pollution' or 'sea level rise' can be considered attitude objects. In answer to this, rather than considering "attitudes to climate change", it breaks this down – instead exploring those factors potentially influencing an individual's "willingness to tackle climate change", which is a specific personal moral norm. Such influencing factors include 'understanding of climate change', 'concern about climate change' and 'self-efficacy'.

At the same time it explores those factors influencing the attitudes and behaviour of individuals towards transport[69] by focusing on modes of transport as different attitude objects (i.e. 'the car', 'the bus', 'the train', 'walking' and 'cycling'). It also investigates whether willingness to tackle climate change acts as, or has the potential to act as, an influence on attitudes towards transport modes. Nonetheless, it is recognised that willingness to tackle climate change is only one factor with the potential to influence the travel behaviour intentions of young people and that it may not be an influencing factor at all. However, it is considered important to investigate its current/potential role further in light of the impact of transport on climate change and the degree to which policy and information provision is based on the link between the two. In doing so, it may also be possible to establish whether other factors pose a stronger influence on young people and/or whether such factors may be utilised in favour of climate change in efforts to influence travel behaviour change.

- **The influence of cognitive dissonance and impression management**

In referring to statements elicited through attitude-behaviour studies utilising the TPB, Anable et al. (2006) note that,

> "Whilst the (TPB) variables[70] remain indicators of *(behaviour)* intention, the artificial exaggeration or understatement of certain variables reduces the power of the analysis." (Anable et al., 2006)

One cause of this 'exaggeration' has been suggested as 'cognitive dissonance'. According to Festinger's (1957) Theory of Cognitive Dissonance, people are motivated to reduce the unpleasant symptoms of inconsistency between attitudes and behaviour by adjusting their attitudes rather than changing their behaviour. As a consequence, new information that may challenge an individual's attitude-behaviour inconsistency

[69] Such as beliefs, subjective norms and perceived behavioural control.
[70] By "variables", Anable et al. refer to attitudes, social norms and perceived behavioural control.

may be disregarded[71]. However, in investigating the influence of cognitive dissonance it is important to establish whether an individual is changing their *true* attitude as suggested by Festinger (1957), or changing their *expressed* attitude, as referred to by Beal and Bonsall (2007).

This issue also relates to the methodological challenges faced in eliciting attitudes, in that a change in expressed attitude may be due to an individual attempting to 'save face' in light of a discrepancy between attitude and behaviour being noted (by themselves, others, or in the case of Beale and Bonsall (2007), a researcher), but does not reflect a change in the individual's true attitude. If this is the case, it may be more appropriate to refer to this as a consequence of 'impression management' (see Leary, 1996), rather than cognitive dissonance. Impression management is the process by which individuals attempt to control the impressions other people form of them, by regulating the information they give in social situations and/or situations whereby they are asked for information directly (via taking part in an interview or survey for example)[72].

Overall it can be said that, with the above criticisms in mind, the Theory of Planned Behaviour may be too simplistic to apply to the study of travel behaviour in the context of climate change. Firstly the TPB is typically applied to simple binary choices (such as use the car or use public transport), of which transport-related choices in the context of climate change are not – as seen by the discussion presented in this chapter.

[71] For example, Beale and Bonsall (2007) carried out a project in which members of the public were interviewed about their perceptions and use of the bus, then exposed to a positive marketing message (which comprised of a letter, a leaflet, a route map and up-to-date timetable) and then re-interviewed to identify any changes in perceptions and attitudes towards, or usage of, the bus since the first interview. The authors found that none of the non-bus users reported a more positive attitude after receiving the marketing material and consider that cognitive dissonance may partly explain this result. They suggest that, having felt psychological discomfort due to the inconsistency between the positive formation provided by the marketing material and their behaviour, the non-bus users may well have interpreted the arguments made in the promotional material in a way that criticises bus travel (e.g. "OK, so it is a 10 min frequency – but 10 min is a long time…") rather than changing their behaviour in light of it. In this way, they can reduce the discomfort felt by realigning their expressed attitude with the marketing material and their behaviour.

[72] In this sense, the influence of impression management may mean that an individual who uses the car for every journey (even when this is not necessary) may claim that they are concerned about the impact of transport on climate change, but also claim that that they have to use their car because there are no other options available (even if this is not the case). In doing so, the importance of creating an 'environmentally-positive' impression of themselves (linked to their self-identity or self-image) is more important than expressing their true attitude in relation to their use of the car. For example, it may be that they dislike the idea of travelling with others on the bus, but they do not want to present this image to others.

However, it is this simplicity that also acts as an attraction to the TPB (French et al., 2007) in that it is possible to refine and enhance the TPB with the addition of various concepts. Therefore, the TPB can be regarded a suitable starting point for examining attitude-behaviour discrepancy. For example, the personal moral norm construct included in the NAT and VBN theory has already been found to be an appropriate addition to the TPB and it may also be useful to add the VBN theory's construct of altruism.

At the same time, the NAT and VBN theory may benefit from the addition of perceived control over behaviour and behavioural intention from the TPB. Nevertheless, it remains that emotion, habits (or automatic behaviours) and constructs relating to social/ interpersonal influences on behaviour (such as self identity) are not included in these frameworks, due to their assumption of deliberative decision making by the individual. The importance of emotion and evidence suggesting the influence of this on travel behaviour has already been highlighted above. Thus, it is to the influence of habits and social-symbolic motives that the attention of this chapter now turns.

3.3.1.4. Habits

It can be said that the deficit model, the Rational Choice Model, the TPB, the NAT and the VBN theory presuppose that behaviour is, in part, the product of cognitive deliberation. However, the literature suggests this is not always the case. Instead individuals may act instinctively, automatically or habitually. For example, a person may automatically reach for their car keys when they leave for work because they have always used the car for this purpose and as such, the frequency of this past behaviour has meant that it is no longer the result of cognitive deliberation[73].

Therefore, attitudes and behaviour intentions may cause action when the behaviour is new (such as driving having just obtained a licence), but when the same behaviour is repeated (such as using the car for the routine commute to work), new information (in relation to available alternatives, such as a bus timetable) is not taken into account,

[73] However, as noted by Conner and Armitage (1998) there is some confusion in the literature as to whether 'habit' is conceptualised simply as relating to past behaviour, or *frequency* of past behaviour. However, considering the postulation that habit is the cause of future behaviour, the present thesis considers it unlikely that 'past behaviour', if not repeated, can be considered the sole cause of future behaviour.

thus the influence of habit grows stronger and the effect of behaviour intention loses importance (Triandis, 1977). Therefore, when habit is strong, attitudes are weak (Garvill et al., 2003), as are beliefs and intention. Jackson (2005) argues that this situation is,

> "…clearly problematic for models that regard behaviour as being mediated by intention. It is also problematic for attempts to motivate pro-social or pro-environmental behaviour. Even if we can persuade people to change their attitudes and beliefs in favour of pro-environmental action, even if we can convince them of the need to behave in pro-social ways through injunctive or descriptive social norms, even if we are successful in getting people to internalise pro-environmental personal norms, there is still no guarantee that they will actually behave in pro-environmental ways." (Jackson, 2005)

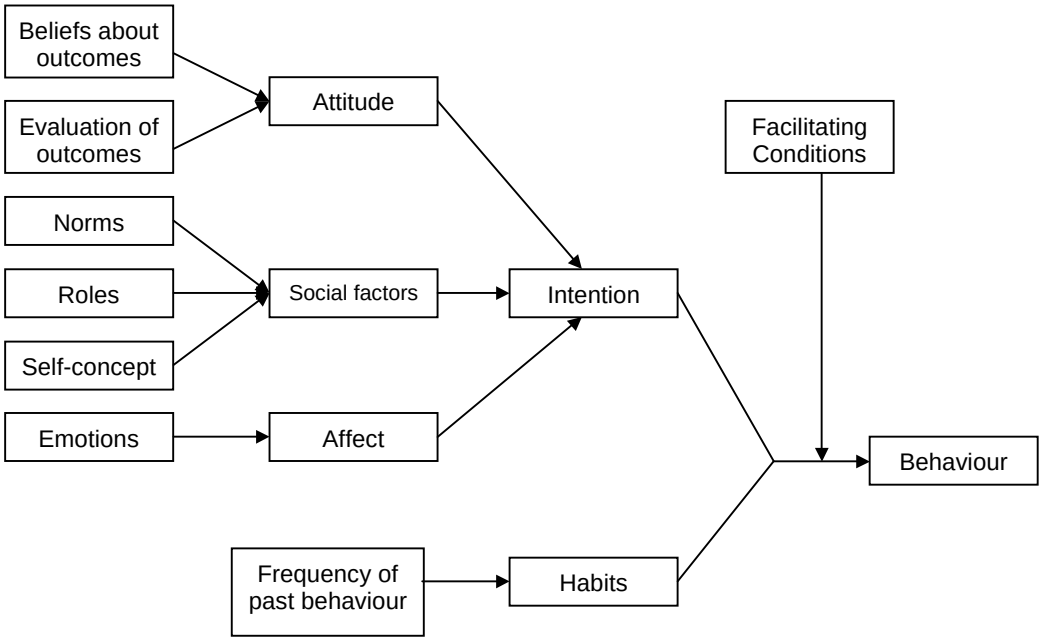
The issue of habit has thus led to a number of commentators dismissing intention-based and value-based models of individual behaviour entirely. However, Jackson questions this stance,

> "It would certainly be worth asking if there is anything at all that can be said about how, where and when individuals may be said to act from their intentions; how, where and when they appear to act in automatic or routine ways; and how if at all, this knowledge might help us understand and further pro-environmental change." (Jackson, 2005)

With this and the context of the present thesis in mind, the most useful socio-psychological theoretical framework including a habit construct is the Theory of Interpersonal Behaviour (TIB) (Triandis, 1977, 1980). The TIB (as depicted in Figure 6, page 49) is considered similar to the TPB in that both include expectancy-value and normative belief constructs and both attempt to explain the *intention* to perform a specific behaviour, as well as the *actual* performance of that behaviour. However, whereas the TPB proposes that social behaviour is under the individual's conscious control, the TIB states that as the level of habit[74] increases, the conscious control of the individual over the social behaviour decreases.

[74] Defined by Triandis (1980, cited Bamberg and Schmidt, 2003) as, "situation-behaviour sequences that are or have become automatic, so that they occur without self-instruction. The individual is usually not 'conscious' of these sequences."

Figure 6: Triandis' Theory of Interpersonal Behaviour (source: Jackson (2005))



However, Anable et al. (2006) comments that models such as the TIB have been "almost absent" from transport studies, despite evidence pointing to the connection between habit, habitual driving (such as the commute to work as referred to above), and the dominance of the car in the UK's transport system. For example, Klockner and Matthies (2004)[75] found that a measure of self-reported frequency of past behaviour[76], when added to the analysis of travel mode choice, significantly improved the prediction of later behaviour more effectively than behaviour intention, norms (in particular moral norms) and perceived behavioural control. As such, they postulate that it is only those people with weak habits that are,

> "…more likely to react to norm centred intervention strategies (e.g. commitment strategies) or information strategies (e.g. environmental education)." (Klockner and Matthies, 2004)

[75] Klockner and Matthies (2004) report on a quantitative study that considered how habits could be integrated into a model of normative decision-making. The study was carried out in Bochum, Germany, involved 160 participants aged between 19 and 78.
[76] Which, according to Garvill et al. (2003), is the most common method of operationalising habitual strength.

Similarly, both Garling et al. (2001) and Verplanken et al. (1997) found that a habitual driver is unlikely to think of public transport as a possible alternative and to acquire information that is necessary for using public transport. Fujii et al. (2001) also found that the stronger their participant's driving habit, the less frequently public transport was used as a mode by which to commute, even when a highway routinely used for commuting was closed.

Nonetheless, Bamberg et al. (2003) challenge the concept of habit in relation to the lack of cognitive regulation of behaviour this causes and, in doing so, question the assumption that new information is insignificant when habit is found to influence behaviour. The authors argue that,

> "Cognitive regulation of routine behaviours is evident even in relatively simple action sequences. When two people are introduced to each other at a party, they automatically extend a hand in greeting without giving it a second thought. However, if one person has just spilled a drink and has wet hands, this automatic response is suppressed, and that person apologises for being unable to shake the other person's hand." (Bamberg et al., 2003)

As such, they argue that this 'new information' (i.e. wet hands instead of dry) can,

> "…disrupt automatic execution of the behaviour and initiate reasoned action." (Bamberg et al., 2003)

The results of their study examining choice of travel mode among college students[77] support this view. Part of this quantitative research[78] was to evaluate the influence of new information (by way of an intervention designed to increase the number of students who ride the bus rather than drive their cars and consisting of the introduction of a prepaid "semester ticket") on habitual past behaviour. They found that students who had been using their cars regularly to get to the campus did not have to make their travel-mode decisions anew every day. However, they did reconsider their options as soon as a prepaid semester bus ticket was introduced. As a result, the authors conclude that behaviours have automatic elements, but are also based on reason -

[77] These students were aged 18 and above.
[78] The study employed a two-wave panel design using questionnaires. The sample sizes ranged from 578-592, depending on the variables included in a given analysis.

subject to at least some degree of monitoring and therefore open to being influenced by new information.

Taking into consideration all of these studies, it is held by this thesis that habit (or 'automatic behaviour') has a relatively strong influence on travel mode choice and reduces the influence of cognitive deliberation and the role of new information in changing behaviour. However, it does not remove the influence of these factors altogether in that *reason* also plays an important role in this context. Further, with respect to reducing use of the car and increasing use of more environmentally friendly modes, a particularly important segment of the population would appear to be young people before the age of licence acquisition in that this group are yet to form habits as a car driver. It is considered necessary to gain a deeper understanding of the travel-related attitudes and current/future intended behaviours of this age group in order to develop policies and interventions that may reduce the likelihood of them developing habitual behaviours as a car driver in the future and retain or create positive attitudes and behaviours towards more environmentally friendly modes. It is postulated that it may be possible to prevent the habit of driving from forming in the first place by influencing young people before they start driving, in part through the distribution of relevant information or incentives (for example reduced bus prices).

3.3.2. Beyond the self

As noted by Anable et al. (2006), recognising the influence of social or "interpersonal interaction" on behaviour,

> "…reminds us that the immediate antecedents of individual's travel behaviour are part of a larger causal process and forces us to ask where people's attitudes originate and how they relate to shared representations of travel." (Anable et al., 2006)

One example of such interaction is represented by "social norms", as included in the TPB. However, there are additional factors at the interpersonal level that are considered influential with regards attitudes towards transport modes and willingness to

tackle climate change. As such, attention is given here to 'self identity and image' and 'modelled behaviour'.

3.3.2.1. Self identity and image

According to Stets and Biga (2003),

> "One criticism that has been levelled against research that uses attitudes as a key component in influencing social behaviour is that it omits an explicit reference to the self and one's identity." (Stets and Biga, 2003)

In response, research on the self and identity assumes that the self is a primary motivator of behaviour (Stets and Burke, 2002, cited in Stets and Biga, 2003). According to Cotterell (1996) identity refers to a person's sense of self-definition in relation to others of "whom s/he is like in some ways and not like in other ways". Therefore, how an individual views themselves in relationship to others (via the roles they typically play in society (Stryker and Burke, 2000)) is the backbone of Self Identity Theory (SIT).

The Theory of Interpersonal Behaviour (TIB) (as referred to Section 3.3.1.4.) draws on this theory in that it includes a concept entitled "social factors", which in turn (according to Jackson, 2005) includes:

- *Roles* – "sets of behaviours that are considered appropriate for persons holding particular positions in a group" (Triandis, 1977; cited in Jackson, 2005).
- *Self-concept* – the idea that a person has of themselves, the goals that it is appropriate for that kind of person to pursue, and the behaviours that this kind of person does or does not engage in.

Similarly, Social Learning Theory (SLT) allows for behaviour to be influenced by those on whom identity is modelled and by those from whom a person is hoping to distinguish themselves. However, as noted by Anable et al. (2006), both the TIB and SLT have been paid little attention in travel behaviour studies.

In relation to the Theory of Planned Behaviour (TPB), a number of authors have addressed the extent to which a construct of self-identity might be a useful addition to this model. There is some similarity between SIT and the TPB in that both regard behaviour as being determined by conscious and intentional, 'rational' decisions, but they differ in terms of focus. Whereas SIT captures the influence of the wider social context on individual actors, the TPB is more psychological in that it is not overly concerned with wider social societal context, instead dealing with a more restricted normative component (Conner and Armitage, 1998). Thus, the TPB deals only with the expectations of others, rather than (like SIT) reflecting the ways in which individuals view themselves in society with respect to specific behaviours, the roles they wish to play and the image(s) they want to portray.

The first articles proposing to integrate the TPB with self-identity variables appeared in the late 1980s (Biddle et al., 1987; Howard, & Piliavin, 1987; Harng et al., 1988; all cited in Mannetti et al., 2004) and were mainly focused on "role identity", which according to Charng et al. (1988) corresponds to one's position in the social structure, such as parent, spouse, or employee[79]. From these studies it was demonstrated that role identity, attitudes and norms are significant and *independent* predictors of behaviour intention (for example to donate blood (see Charng et al., 1988)) and that repeated and frequent behaviours increase the role identity (such as "blood donor"). Furthermore, it was found that following repeated performance of a behaviour, role-identity becomes more salient compared to relatively transient attitudes or the perceived social pressure from others (normative beliefs)[80].

Since Charng et al.'s work, several other studies have provided similar results in a variety of domains such as voting behaviour (Granberg & Holmberg, 1990) and recycling intentions and behaviour (Terry, Hogg, & White, 1999, cited in Mannetti et al., 2004). Likewise, having compared a number of studies (and a range of behaviours) on the role of the self-identity concept in the TPB[81], Conner and Armitage (1998) found that self-identity accounted for 1% of the variance in behaviour intention (over and

[79] Although self-identity can also apply to factors such as gender (I am female), country (I am British), or age (I am young).
[80] Although normative beliefs are considered to be more stable, over time, than attitudes.
[81] See Dennison and Shepherd, 1995; Godin et al., 1989; Sparks and Shepherd, 1992; Sparks et al., 1995; Thesdorakis, 1994; Thesdorakis et al., 1995; Armitage and Conner, 1998; all cited in Conner and Armitage, 1998.

above TPB variables) and, although seemingly a modest improvement, they therefore suggested it may prove a useful addition to the TPB[82].

It is also postulated that role identity is an important influencing factor with respect to attitudes towards the car and driving behaviour in particular. For example, Anable et al. (2006) suggest that,

> "…if a person becomes more involved in the role, say as a car driver, their attitudes will become less and less important in determining their intention to choose a particular travel mode thus potentially widening the gap between environmental consciousness and behaviour." (Anable et al., 2006)

In addition the car is 'consumed' as a product by vast swathes of society (as noted in Chapter Two) and, as emphasised by consumer psychology, cultural studies and social psychology, the 'symbolic' ways in which people consume goods is important in understanding the ways in which people construct, maintain and express their self-identity. The 'symbolic consumption' perspective proposes that consumers do not just consume *actual* products, but also consume the symbolic meanings of those products (Dittmar, 1992), i.e. the image they believe these products will provide them. For example, Wright and Egan (2000) refer to the car as a potent status symbol, a symbol of power and speed and a symbol of who we are[83]. They also note the need for a person's car to "say" something about them.

Reflecting this, Lane and Potter (2007) carried out a series of interviews with drivers of alternative fuel vehicles and found that a number of the participants liked the 'green' image they believe this 'highly observable' eco-product provides them. Image and status has also been found to be important in relation to standard (i.e. non alternative fuel) cars (Johansson-Stenman and Martinsson, 2006[84]) and to those modes of transport considered more 'environmentally friendly'. For example, Stradling et al.

[82] However, they also note that the context of the study in question is an important influencing factor.
[83] Similarly, Goodwin (1995) suggests that the car, "… can be an emblem of desirable lifestyles, a symbol of freedom, power, control and status or a means of self-expression or of enhancing self-esteem."
[84] Johansson-Stenman and Martinsson (2006) report on a quantitative survey of 1300 randomly selected individuals aged between 18 and 65 years in Sweden. They report that image and status are key to people's car-purchasing decisions.

(2007) [85] report that passengers' dislike of urban bus journeys (in Edinburgh) are partly explained by their beliefs relating to self image - such as "travelling by bus does not create the right impression".

However, despite this evidence, Hounsham (2006) notes that evidence of the relevance of self-identity is practically non-existent in transport studies, as is the application of Self Identity Theory itself. Such an application, via new research in this area, may provide further explanation for the gap between attitudes and behaviour in this context.

3.3.2.2. Modelled behaviour

Modelling individual behaviour on that of others has been found to play a key role in the establishment and maintenance of social norms. Social Learning Theory (SLT) (Bandura, 1986) provides a useful framework for understanding this factor. In addition to a construct of modelled behaviour, it includes those of self-efficacy (as discussed previously) and 'skill and competency'. Of particular interest here, this theory holds that in addition to our own direct experience, we learn by observing others around us including our parents and peers as well as those people portrayed in the media (and thus further emphasises the fact that influential information relative to our travel behaviours can come from a range of sources) (Jackson, 2005). With this in mind, Jackson (2005) suggests that identity-related buying behaviours (including the purchasing of cars) are influenced by those on whom identity is modelled and therefore the promotion of environmental behaviours (such as reducing use of the car) would benefit from the use of influential role models. However further investigation is required to determine exactly who or what these role models are in the context of transport and climate change.

[85] This study used a mixed method approach, consisting of a self-completed questionnaire (where 2250 were distributed with a 45% response rate) and write-in responses to a number of questions concerning travel in Edinburgh. The respondents were aged 17 – 89.

3.3.3. The temporal dynamic of attitude

In addition to those factors discussed above, it is also important to remember that attitudes (and behaviour) can change over time. Therefore, in comparison to the linearity of the conceptual frameworks discussed previously, insights can be gained from both Bagozzi's comprehensive Model of Consumer Action (Jackson, 2005) and Tapestry's "Seven Stages of Change Model" in relation to the new information provided by experiencing the behaviour chosen. According to Bagozzi's Model (illustrated in Figure 7, page 57), having carried out a chosen (in this case goal-directed) behaviour, information based on the attainment of, or failure to attain, the desired goal feeds back into the decision making process. Similarly, TAPESTRY's "Seven Stages of Change" model[86] (depicted in Figure 8, page 58) incorporates a feedback loop from modified habitual behaviour back to awareness of new issues.

With respect to the present thesis, it is the influence of an individual's experience of transport modes on their current and future intended travel behaviour that is considered of particular importance. Thus, it is held that there is an important feedback loop between travel behaviour and the information upon which individual's attitudes towards transport are based. At the same time it is recognised that all information (and sources thereof) are subject to change over time.

[86] According to Jones and Sloman (2006), this model was developed on the findings of two research projects – INPHORMM (Information and Publicity Helping the Objective) and its successor TAPESTRY (Travel Awareness, Publicity and Education Supporting a Sustainable Transport Strategy in Europe). Both studies examined how information, publicity and communication programmes may be used to change attitudes and travel behaviour and reduce car use. As such, according to Hones and Sloman (2006), "INPHORMM identified a five-stage process that has to be facilitated among appropriate target groups if changes in travel behaviour are to be achieved and sustained." Following this, TAPESTRY incorporated the Theory of Planned Behaviour and the Transtheoretical Model into this five stage process, which resulted in the "Seven Stages of Change" model.

Figure 7: Bagozzi's comprehensive model of consumer action (source: Jackson, 2005)

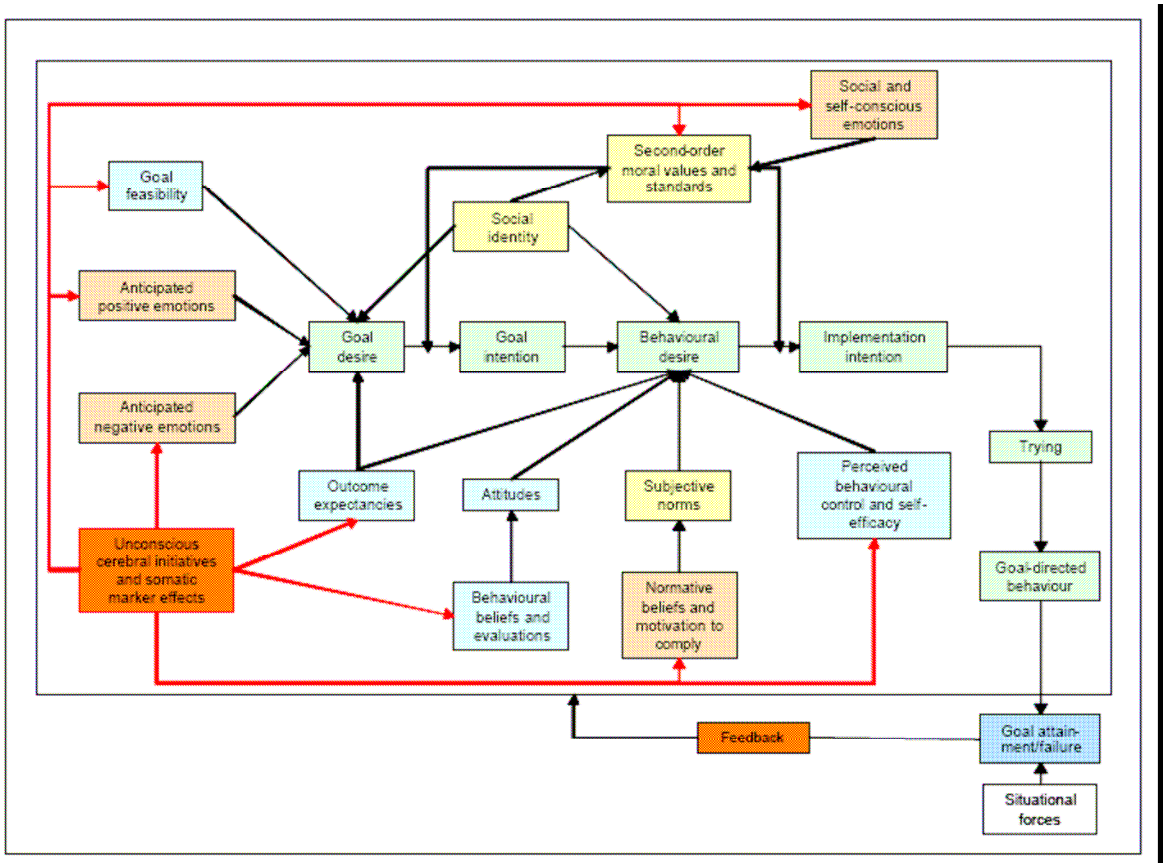
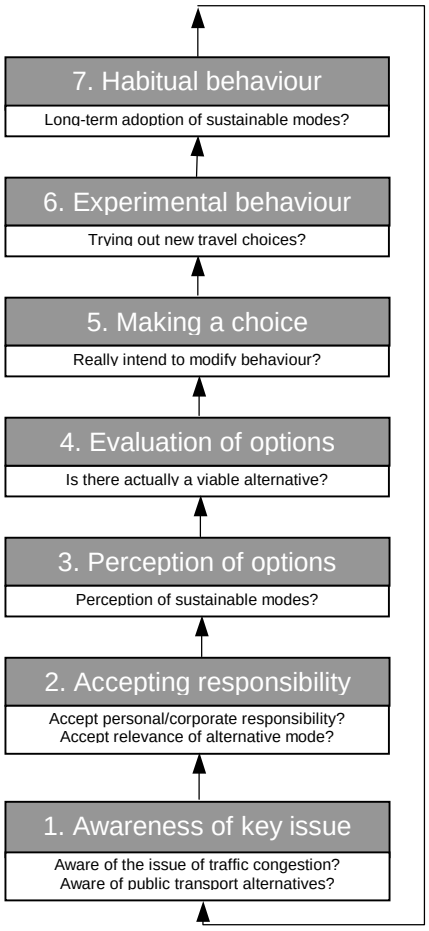


Figure 8: TAPESTRY's "Seven Stages of Change" model (source: Jones and Sloman, 2006)



3.4. Discussion

3.4.1. The value of theoretical frameworks

This chapter has illustrated that the study of attitude has led to the development of a number of conceptual theories, many of which can be applied to the study of attitudes towards transport and its impact on climate change. However, in the majority of cases this has yet to be carried out to any great extent As such, efforts to understand and influence society have relied on too simplistic models (i.e the deficit models and Rational Choice theory), although it does appear that Government is beginning to recognise this. Nevertheless, from the discussion presented, it is also clear that, although useful in understanding the factors influencing attitudes and behaviour towards transport and willingness to tackle climate change (and the links/relationships

between these factors), no single theoretical framework can be applied in this context in that no one framework includes *all* of those factors deemed relevant.

This finding points to the fundamental limitations of using such theories in that their use is significantly hampered by the subjective nature of attitudes (as noted in Section 3.2.1.) and the methodological difficulties that arise as a consequence of this (as will be discussed further in Chapter Five). Disparate parts of the evidence base regarding attitudes and behaviour are difficult to reconcile in the form of one theory as, even within disciplines, methodologies used to study them can vary widely and results can be expressed in very different forms – from ethnographic qualitative research to quantitative correlations based on statistical samples. In addition, both quantitative and qualitative research utilising such theories must be regarded as limited by the *context* of the study. With this in mind, Jackson (2005) states that,

> "… about the only thing one can say with absolute certainty is that it is virtually impossible to derive universal causal models with which to construct behaviour change policies in different domains" (Jackson, 2005)

Thus it is considered misguided by this thesis to assume that the variations of human attitudes and behaviours, in *all* contexts, can be explained by a single theory. Instead, it can be said that, due to their application in a variety of contexts (although, as noted during this chapter, often not in relation to transport and climate change), each model provides a different perspective on the attitude-behaviour relationship and, with this in mind, all can be deemed useful when considering a relatively new context - such as attitudes to transport and willingness to tackle climate change. By analysing a number of different theoretical frameworks in this way, it is possible to utilise a greater number of potential explanatory concept/factors and/or different postulated links between these concepts, than can be provided by one single framework.

Further to this, when studying a set of attitudes and behaviours in a new context, it is important to ensure that such research is open to new explanatory factors – one or some of which may be unique in that context alone. In order to allow such openness, and in reflection of the subjective nature of attitude, it is also important to explore such issues through the language of those being studied (as discussed previously). Consequently, it is a combination of theories and/or relevant concepts, as well as a thorough consideration of context and language, that are focused upon by this thesis.

3.4.2. Identifying new research

As noted in Section 3.3.1.4., there appears a particular need to understand the attitudes, behaviour intentions and behaviours of young people (i.e. those before the age of licence acquisition) in that this group represent the future transport users and decision makers in relation to the UK's transport system, but are yet to form habits (or 'automatic' behaviour) as car drivers. Thus it may be possible, via policies and interventions, to reduce the likelihood of them developing habits (or automatic behaviours) in favour of the car, and retain or create positive attitudes and behaviours towards more environmentally friendly modes. Consequently, Chapter Four gives attention to the importance of understanding this age group, using insights gained from this chapter. A basic assumption of this thesis is that, as members of society, the majority of influences described (and in turn the theoretical frameworks referred to) in this chapter are also applicable to young people. These concepts are summarised as:

- **Values** - which are stable beliefs through which an individual forms object-specific attitudes and behaviour.
- **Attitude** (including cognitive beliefs and affective emotions) towards the attitude object.
- **Understanding** via **information and signals**.
- **Normative beliefs** about the expectations of others (leading to **social norms** with respect to the behaviour) and about what is right and wrong (leading to **personal moral norms** with respect to the behaviour)
- **Self-identity and image** in relation to the way a person *wants* society to view them and **role-identity** in relation to the way in which a person sees themselves fulfilling a role in society, such as sibling, driver, or environmental activist.
- **Perceived behavioural control beliefs** about the required resources and potential obstacles to behave in the manner chosen, and self-efficacy with respect to beliefs that an action can be successfully executed.
- **Actual behaviour control** over the ability to perform a given behaviour (distinct from perceived behaviour control in that the elements of control lay in fact rather than a perception of fact).
- **Awareness of** the **consequences** of behaviour with respect to climate change and **ascription of responsibility** with respect to these consequences.

- **Habit or automatic behaviour** where cognitive deliberation of new information in relation to the behaviour no longer occurs.
- **Modelled behaviour** - where an individual may base their own behaviour on that of others.

In addition, the following chapter gives attention to those weaknesses in the evidence base brought to light by this chapter and whether these are also applicable to young people, as well as identifying further gaps in understanding in this context. These weaknesses have been identified as:

- A need to establish the public's 'sophisticated' understanding of climate change, the *type* of additional information they claim to require in this context and the sources of information upon which their current understanding is based;
- A need to better understand the role of the affective dimension of attitude (i.e. emotions and feelings) in the context of transport and climate change;
- A need to better understand the role of modelled behaviour and self-identity in the context of transport and climate change; and
- The need to develop more suitable, qualitative methodologies for studying these factors.

Chapter Four
Young People

4.1. Introduction

Chapter Two illustrated that the UK's transport system is dominated by the car, which in relation to climate change, is the least environmentally friendly mode of motorised transport. As such, it also discussed the importance of tackling climate change via changes in travel behaviour but that there is a discrepancy between the concern shown by the UK population with regards climate change and their unwillingness to change their travel behaviour in light of this issue. As such, Chapter Three discussed a number of concepts and conceptual frameworks that can be used to explain this 'attitude-behaviour gap'.

Chapter Three also identified young people (below the age of licence acquisition) as a particularly important segment of the population in that they are yet to form a reliance on the car as a driver. In this sense it is assumed that there remains scope to influence them before they develop driving habits and maintain or develop their use of more environmentally friendly modes. As such, this chapter begins by reviewing current understanding of the current and future intended behaviour of young people in relation to transport. Following this, attention is given to the extent to which it appears this current and/or intended travel behaviour, and young people's attitudes towards transport, may or may not be influenced by their willingness to tackle climate change (as a specific personal moral norm).

Considering the degree to which young people have been found to be unwilling to change their current and intended travel behaviour in light of climate change, a discussion is then presented in relation to those factors influencing their willingness to do so (including understanding of this issue and awareness of consequences), as well as their attitudes towards transport modes. The overall findings are then summarised and significant gaps in the research identified. Consequently, the new study reported by this thesis is outlined.

4.2. Defining 'young people'

The term "young people" is taken here to mean those people aged between 11 and 18, the period of time often referred to in the literature as 'adolescence' (WHO, 1998). This age group has been chosen for a number of reasons. Firstly, it has been found that young people start to gain a level of independence at around age 11 (as will be seen in Section 4.3. below) and it is an understanding of young people's independent choices and intentions, in relation to transport and tackling climate change, that this thesis is aiming to achieve (although the influence of other people remains an important factor). In addition, (as noted in Section 4.5.11.), it is at various 'life stages' that transport is more likely to be a front of mind issue for the individual and therefore at a point where travel habits may be broken, or travel intentions may be open to reconsideration, via new information. Such life stages include moving house, changing schools or entering the work force. With this in mind, three significant and relatively universal life stages in young people's lives can be identified.

Eleven is an important age, as most young people move to secondary/senior school which may bring new choices in relation to the journey to school as well as a new level of independence from their parents. Fifteen is also an important age as young people are facing the possibility of leaving formal education and entering the work force or moving to college or sixth form at a new school. Storey and Brannen (2000) found that over 40% of young people aged 15-16 claim transport issues influence their decisions about post-16 education. Eighteen is considered important as young people may have to cope with leaving education, entering higher education or the workforce and/or leaving home. This age is also intriguing in that it is the point at which young people may have the opportunity to drive or may already have experience of driving. As such, they are in a position to reflect on their thoughts before and after learning to do so.

Further, this age range represents an important stage in the maturity of young people as individuals. In addition to biological changes (i.e. physical maturation), young people are subject to important cognitive changes, including an increasing self-consciousness and social understanding that enables them to think and reason about themselves, their worlds and their relationships (Barnes, 1998). As will be discussed later in this chapter, the influence of parents and peers (Newman and Newman, 1991), as well as developments in moral thinking (Conger and Galambos, 1997) are also important during this period.

4.3. The travel behaviour of young people

Chapters Two and Three referred to the travel behaviour and attitudes of society in the UK as being heavily influenced by the car. However, the literature referred to in these chapters does not consider those people aged 15 or younger, the majority of studies only considering those above the age of 16. Thus, it is important to determine whether the travel behaviour of those below the age of driving-licence acquisition (17 years) is also dominated by the car. DfT (2005c) provides a breakdown of the travel behaviour of the UK population by age, as illustrated by Table(s) 3 (page 66). From this it can be seen that for all age groups the dominant mode of transport is the car. However, it can also be said that the highest proportion of trips made by more environmentally modes than the car (i.e. walking and the bus[87]) is that made by young people below the age of 17 (42%). In comparison, those aged 17-29 use such modes for 35% of all journeys, those aged 60 and over used them for 33%, those aged 50–59 years for 24% and those aged 30-49 years for only 23 % of all journeys.

With respect to the travel behaviour of young people in isolation, similar results were reported by DfT (2006c[88]) and this study provides an account of such behaviour at each yearly increment up to the age of 20 (as shown in Figure 9, page 67[89]). Here it can be seen that, until the age of about 10, both genders make similar numbers of trips, and travel mainly as car passengers. Most of the rest of their travel is by walking. At around eleven (the age young people begin secondary school) various changes appear and travel by bus begins to increase. At this point, boys are more likely to cycle and girls also start to make more trips overall than boys. From the age of around 16,

[87] 'Other' modes were not included due to a lack of explanation as to the modes being referred to.
[88] The Department for Transport's Mobility and Inclusion Unit commissioned this study in order to investigate young people's (aged between 11 and 19) travel use and experiences. According to DfT (2006c), "Research to identify young people's experiences and needs included data collection via surveys and seven focus groups. Two focus groups were also held with parents and carers. Transport operators and providers were also surveyed and interviewed to assist in establishing current transport provision for young people and to explore young people's involvement in transport decision making…935 school children completed a self-completion questionnaire distributed to six schools transport operators and providers were also consulted via the use of an email questionnaire and/or telephone interview…Six train operators, five bus operators, three local authorities, and two Passenger Transport Executives (PTE's) were involved in the study."
[89] According to DfT (2006c), "sample sizes are fairly small, so there are some 'jumps' in the data that are not significant." The sample consisted of 935 completed questionnaires, distributed to six schools across the UK, and seven focus groups of six-fourteen young people aged 11 to 19, also carried out across the UK.

travel by other modes (including rail and taxi) become more significant, but car travel increases again as some young people start to drive.

Table(s) 3: Trips per person per year by purpose and main mode of transport, 2003-2004, by age. (Source: DfT, 2005c)

Trips per person per year by purpose and main mode, 2003-2004

Under 17 years — Trips per person per year

All people	Commuting & business	Education	Escort education	Shopping	Other	All purposes
Walk	2	120	23	24	144	314
Car/van driver			N/A			
Car/van passenger	4	81	21	38	332	476
Stage bus	*	33	*	8	21	64
Other	2	23	*	3	22	51
All modes	9	257	45	74	519	904

Trips per person per year by purpose and main mode, 2003-2004

17-29 years — Trips per person per year

All people	Commuting & business	Education	Escort education	Shopping	Other	All purposes
Walk	39	17	23	54	118	251
Car/van driver	127	8	11	50	159	354
Car/van passenger	42	8	*	33	97	181
Stage bus	31	16	*	17	28	94
Other	42	9	*	7	36	94
All modes	281	58	36	160	438	974

Trips per person per year by purpose and main mode, 2003-2004

30-49 years — Trips per person per year

All people	Commuting & business	Education	Escort education	Shopping	Other	All purposes
Walk	29	*	39	47	114	230
Car/van driver	214	2	61	119	295	691
Car/van passenger	23	*	3	34	71	130
Stage bus	16	*	2	11	12	42
Other	37	*	*	5	23	67
All modes	318	4	107	216	515	1160

Trips per person per year by purpose and main mode, 2003-2004

50-59 years — Trips per person per year

All people	Commuting & business	Education	Escort education	Shopping	Other	All purposes
Walk	32	*	4	55	124	214
Car/van driver	200	*	14	119	263	598
Car/van passenger	26	*	*	45	85	157
Stage bus	17	*	*	14	13	44
Other	27	*	*	6	20	54
All modes	302	*	19	239	505	1067

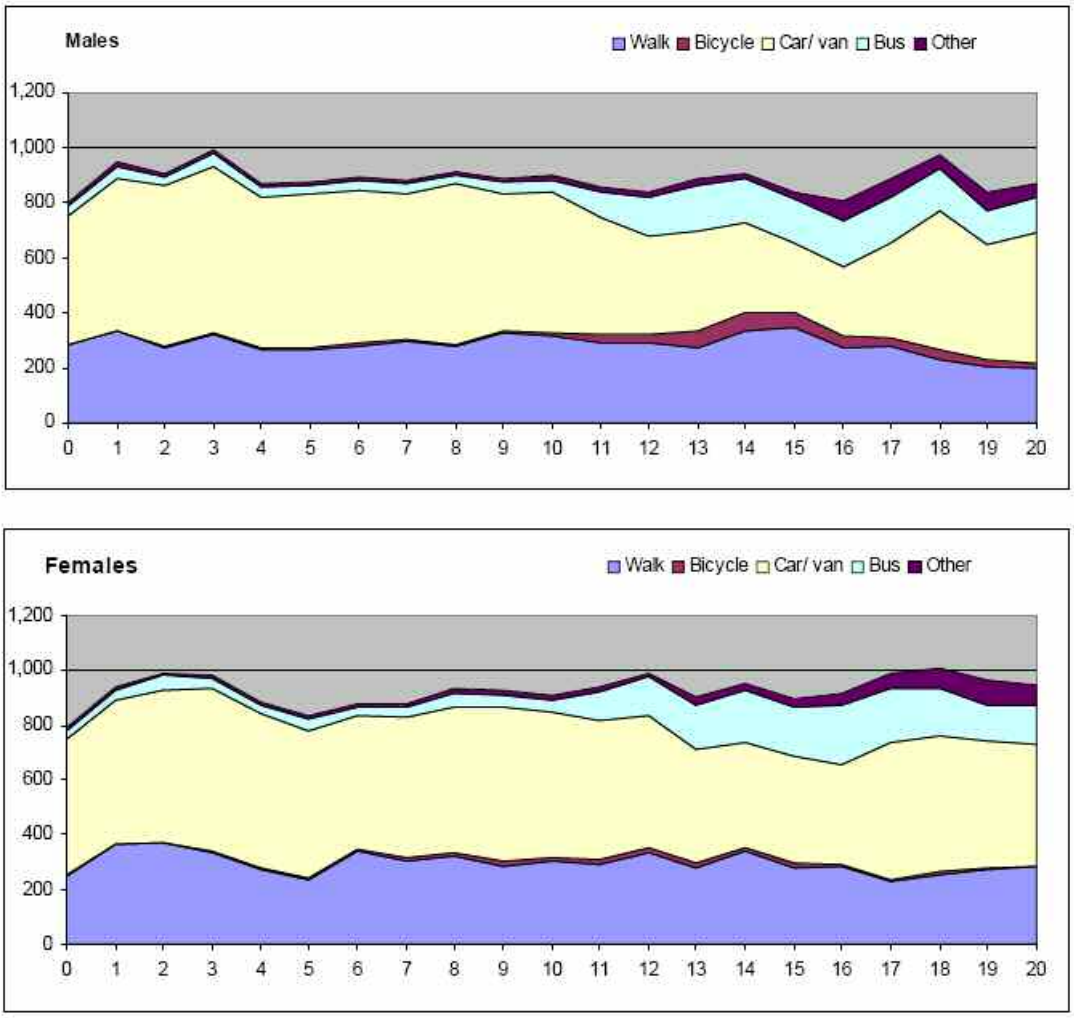
Trips per person per year by purpose and main mode, 2003-2004

60 years and over — Trips per person per year

All people	Commuting & business	Education	Escort education	Shopping	Other	All purposes
Walk	5	*	2	73	129	209
Car/van driver	37	*	5	107	204	354
Car/van passenger	5	*	*	55	99	160
Stage bus	3	*	*	35	27	65
Other	5	*	*	9	23	37
All modes	54	*	9	279	482	825

*** Asterisks denote where sample sizes are too small to yield reliable information.**
Short walks are believed to be under-recorded in 2003

Figure 9. Young people's travel by mode, age (0-20 yrs), number of trips (per person per year) and gender: 2002/3 (source: DfT, 2006c)



According to DfT (2006d; 2005c) the journey to school also illustrates the more 'environmentally friendly' travel behaviour of young people when compared to the routine commute to work by those over the age of licence acquisition. Table 4 (page 68) illustrates that the majority of both primary aged (5-10 years) and secondary aged children (11-16) walk to school and similar results were found by DHC (2003)[90].

[90] DHC (2003) report on a project investigating the attitudes of children and young people towards sustainable transport. In addition to a review of the literature, information exchanges and full interviews were undertaken with a range of professionals interested in the attitudes of children towards transport and sustainable development issues. Further, a series of case studies were undertaken in schools across Scotland, covering rural, suburban, and urban areas of varying levels of affluence. The schools were both primary and secondary, thus the children participating were aged 5 to 16. The results are based on both qualitative and quantitative data, including that from 22 discussion groups and 367 completed questionnaires.

Table 4: Travel to school by age group: 1992/4 and 2005 (source: DfT, 2005c; 2006d)

	1992/1994 Age 5-10	2005 Age 5-10		1992/1994 Age 11-16	2005 Age 11-16
Walk	61	49		44	44
Car	30	43		16	22
All bus	8	6		32	29
Bicycle	1	1		4	2
Other	2	1		4	2

Therefore, although it can be said that the travel behaviour of young people is, in general, dominated by the car, not only are those under the age of 17 higher users of more environmentally modes of transport in proportion to the rest of the population, but for the routine journey to school, walking is the dominant mode closely followed by the bus for secondary aged young people. Comparatively, DfT (2007f) found that, for those over the age of 16, 69% of those journeys made on the routine commute to work use the car and only 11% are carried out by foot. 8% are made by bus, 4% by train and 3% by bike. Consequently, the travel behaviour of those under the age of licence acquisition can be considered more environmentally friendly than those over the age of 17 in the context of these routine journeys. Nonetheless, it should be noted that these figures mask socio-demographic variations. For instance, according to DfT (2006c),

> "Children living in households with two or more cars travel much further to school than those in single car households, who travel further than those in households without cars. Some of these variations are associated with the area type of residence. For example, households in rural areas are more likely to have two or more cars, and in inner cities, households are more likely to have no car." (DfT, 2006c)

DfT (2006c) also refers to the impact of the urban/rural divide with regards the availability of public transport to young people in that they found those living in urban areas were concerned that they lack a bus service at weekends and during the evening, whereas those in rural areas complained about a lack of services in general.

Of particular concern to this thesis however, is the likelihood that the dominance of the car will continue. Firstly, it is clear that use of the car for the journey to school is increasing. Table 4 illustrates that for primary aged pupils, the next most used mode for school travel is the car and that between 1992/94 and 2005 the proportion of school

trips by this mode has increased from 30 to 43%. Similarly, although the bus is the next most used mode of transport for secondary school pupils, the proportion travelling to school by car has risen over the last twelve/ thirteen years, from 16% in 1992/94 to 22% in 2005. Secondly, a number of studies have found that the majority of young people below the age of 17 state their *intention* to drive in the future (DHC, 2003; Storey and Brannen, 2000; Turner and Pilling, 1999[91]). Evidence that this intention often results in real behaviour change at this age is illustrated in Table(s) 3 (page 61) where it can be seen that people tend to move away from more environmentally friendly modes of transport towards use of the car after the point of licence acquisition. It is the main aim of this thesis to explore why this is the case – via a new investigation of the attitudes of young people towards transport modes and whether their willingness to tackle climate change acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour.

4.4. Willingness to tackle climate change

Although there is limited research concerning the willingness of young people to tackle climate change via changes in their current/ intended travel behaviour, the Lex Report on Motoring (1999) found that "the environment is not that motivating to many teenagers" (aged 14-16). According to this report, although they may support the *idea* of encouraging people to use their cars "a little less" and use public transport "a little more", with respect to the impact of the car on the environment, they express less support for what is currently being planned with regards Government transport policy. For example, only four in ten of the teenagers studied believe that the use of cars should be restricted because of the damage they cause to the environment; only a third supported road charging and parking taxes; less than a quarter believe their parents should use their car less; and there was relatively limited support for draconian schemes whereby cars were banned or their ownership restricted. Similarly, Mackay (1997) - who carried out a study of young people (age 16-18 years) at a sixth form college in north London[92] - found that, although those young people yet able to drive

[91] Turner and Pilling undertook a research project "focused on transport experiences of young people, how these experiences impacted on the choices of travel mode which young people make and what resources could be developed to influence young people's attitudes to car use." (Turner and Pilling, 1999)

[92] This study used a mixed method approach. 252 self-completed questionnaires were completed by 252 students, 11 students were involved in two focus groups, the same 11

considered public transport was adequate enough to cope with a ban on cars in central London,

> "…most of those with full licences and cars were vehemently opposed to the idea and felt that not only would it be huge inconvenience, it would also be an infringement of their personal liberty." (Mackay, 1997)

Mackay also reported that all of the participants had "some degree" of awareness of the environmental impact of the car, but felt this situation was not "serious enough" for them to change their attitudes or behaviour intentions away from a desire to drive.

Thus it would appear from these studies that young people are unwilling to tackle climate change via changes in their current and/or future intended travel behaviours. The current literature suggests a number of explanatory factors for this, in addition to (or instead of) willingness to tackle climate change. At the same time, there are a number of factors influencing willingness to tackle climate change (as a personal moral norm) itself. It is to a discussion of these that this thesis now turns.

4.5. Influencing factors

4.5.1. Concern about climate change

Chapter Two referred to the UK population in general as being concerned about climate change. Limiting the extent to which the attitudes of young people may be compared to these findings, it would appear from the literature that large-scale surveys on this topic tend not to include participants aged less than 16 years. Nonetheless, two studies reported by Climatechallenge (carried out on behalf of Defra) provide the possibility for such a comparison. Climatechallenge (2006a) focuses on the attitudes of adults[93] (i.e. those over the age of 17) and Climatechallenge (2006b) focuses on those of young people[94] - in this case aged between 11 and 17. From these studies it was found that, in contrast to the four fifths (81%) of adults who expressed concern about

students, plus 49 others, completed a further questionnaire and 12 students took part in semi-structured interviews.

[93] (n=3134)

[94] (n=749)

climate change, only half (50%) of the young people interviewed claimed to be worried "about the impact of climate change on this country"[95] and around a quarter (24%) agreed with the statement "I am not really bothered about climate change". From these results, it would appear therefore that young people are less concerned about climate change than those over the age of 17.

However, these findings are based on limited studies and it remains important to investigate *why* such a large proportion of young people claim to be unconcerned about climate change. Are young people really undaunted by this issue, or is this only an expressed attitude perhaps impacted by cognitive dissonance or impression management? Would their attitudes be different if they received more information in relation to this issue? Or do other factors, such as the desire to drive, simply act as stronger influences? Gaining a deeper understanding in this context is important - if a high proportion of young people are unconcerned about climate change, targeting this issue may not be the most effective point of focus for policy and educational campaigns aiming to influence the current, and more importantly intended, travel behaviour of young people in light of it.

4.5.2. Understanding of climate change

Having consulted with professionals with an interest in the attitudes of young people towards transport (including representatives from Government agencies, transport consultancies and academics), DHC (2003) discovered a general feeling that awareness of the environmental impact of transport amongst this group is not "sufficient". At the same time, it was noted in Chapter Three that for an individual to accept transport policy in light of climate change, at least a basic understanding of climate change and the link between this and transport is required. As such, it is deemed necessary to establish the level of understanding held by young people of this subject.

Climatechallenge (2006b) found that there is a high level of awareness of the phrases 'climate change' and 'global warming' amongst young people (recognised by 90% of the sample), but the phrases "climate change gases" and "carbon dioxide emissions"

[95] Of this, 40% were "fairly worried" and only 10% were "very worried"

were less familiar (with 51% and 44% recognising these phrases respectively). In relation to the more 'contested' elements of climate change (including the human contribution to this issue, as discussed in Chapter Two), the majority (97%) of participants agreed that climate change is happening and were more likely to consider it was due to human behaviour than natural changes. However, in contrast to the 70% of the adult sample (reported in Climatechallenge, 2006a) who agreed 'strongly' that the world's climate is changing, only 53% of the younger sample felt this way. The younger respondents were also less likely than the adult sample to believe the world and the UK has already been affected by climate change (36% compared with 60%, and 28% compared with 54% respectively).

In relation to the potential impacts of climate change, 85% of the sample suggested that climate change would lead to melting ice caps, whilst 80% believed it would result in changing local weather. With respect to local weather, 43% believed it would result in hotter weather, 30% expected general changes in the weather, whilst 16% believed it would lead to colder weather or more snow. Respondents were also asked to suggest examples of climate change that they had noticed or heard about in the last year and it was found that the younger respondents were much less able to do so than the adult sample (5%[96] compared with 30%).

In addition, similar to those over the age of licence acquisition (as noted in Chapter Three), 76% of young people believed climate change would lead to a hole in the ozone layer and, interestingly, those who had studied climate change at school were *more* likely to hold this belief than those who had not. Comparable findings were made by Boyes and Stanisstreet (1996) and Koulaidis and Christidou (1999). Consequently, it can be said that studying climate change at school does not *always* guarantee a sound understanding[97] of climate change. Nonetheless, with particular relevance to this thesis, respondents were asked what they believed caused climate change and although only a third (33%) of the younger respondents mentioned transport, this was more than the adult sample (26%).

[96] Within this 5% of young people, 45% mentioned flooding, 41% mentioned melting ice caps, 31% droughts, 29% hurricanes, 25% pollution, 24% lack of rainfall in the UK, 24% warmer weather and 11% cold weather.
[97] "Sound understanding" refers to that closest to best scientific understanding as illustrated in Chapter Two.

In summary then, it would appear that more than half of young people are aware of the threat posed by climate change and a third consider transport to be an important contributory factor. In this sense it cannot be said that young people's intention to use the car in the future is based on a total lack of understanding with respect to these issues, but there is a need to increase their understanding – particularly that in relation to the 'finer details' of climate change and the link between this issue and transport (i.e. their 'sophisticated understanding', as referred to by Anable et al. (2006)). In addition to this, as highlighted in chapter Three (again by Anable et al., 2006), it is necessary to establish whether they believe they require further information about climate change and, if they do, what *type* of information they need.

4.5.3. Information and signals about transport and climate change

It was stated in Chapter Three that information and signals about transport and climate change can come from a number of sources and that these may influence people in different ways or provide messages that are at odds with each other, depending on the information being presented. In turn this information can impact on understanding of climate change, as well as influence all other factors identified in Chapter Three as potentially influential in the context of attitudes and current/intended behaviours towards transport and willingness to tackle climate change. Therefore, in addition to the influence of the media, parents and school, it is assumed that young people will also be exposed to information and signals relating to car-marketing campaigns, Government- and NGO-based educational campaigns, promotional material released by public transport companies, the influence of peers, clubs, youth groups or church.

However, although it can be assumed that this information is 'available' to young people, an understanding of how they interpret it is needed, providing a key aim to this thesis. For example, although Hillcoat et al. (1995) found that television was the most common source of environmental information for the young people involved in their study, they also found that young people did not trust the information they obtained in this way – instead placing most trust in the information they gained through personal experience and the people living in the areas where they lived[98]. With this in mind, the following sections explore current understanding of where young people gain

[98] This finding is based on a qualitative study of the environmental concerns and attitudes of young people aged 15-17 in Brisbane, Australia.

information and signals about climate change, transport and the link between these two factors. In doing so however, it must be held in mind that such information will be subject to change on a temporal scale (as noted in Chapter Three).

4.5.3.1. The mass media

Chapter Three revealed that it is generally agreed in the literature that the public gains most information about the science and politics of climate change from the mass media (Ungar, 2000; Bedford et al., 2004; Lowe et al., 2005; Hounsham, 2006). Similarly, Climatechallenge (2006b) report that young people consider television the main source of information about climate change[99], but fewer did so than the adult population (Climatechallenge, 2006a) (63% and 85% respectively). In addition, 13% claimed that they 'recently' heard about climate change on the radio, 13% had heard about it from reading magazines and newspapers and 10% had read about it on the internet, but again these percentages are all lower than those found with the adult population (measured at 45%, 64% and 22% respectively).

This result is perhaps surprising considering the degree to which the mass media influences the lives of young people. As noted by Giles and Maltby (2004), a century ago the range of people able to exert an influence over adolescents was restricted to relatives, neighbours, peers and teachers, but in the intervening period,

> "…this number has swelled out of all proportion with the appearance of the mass media. Today, young people are exposed, for better or for worse, to an immense range of influential figures through television and radio, popular culture, print media and the internet." (Giles and Maltby, 2004)

According to Ofcom (2006a), young people (aged 8-15 years) in the UK watch a (self-reported) average of 13.9 hours of TV per week (with 73% having a TV in their bedroom), the majority listen to the radio (71% of 8-11 yr-olds and 85% of 12-15 yr-olds) at an average of 5.4 hours per week and those that use the internet (both at home and at school) use it for an average of 6.2 hours per week. However, in all

[99] However, these results are based on prompted answers - by using such a methodology this study does not allow a thorough investigation of all those sources of information the participants may be able to identify.

cases, young people's potential exposure to information from these sources is less than that of adults (as reported by Ofcom, 2006b[100]), which may partly explain why a lower proportion of the young people studied by Climatechallenge (2006b) referred to television as a source of information about climate change.

Offering further explanation, Ofcom (2006a) also reports that a significant proportion of young people do not watch those television programmes (considered by this thesis to be) most likely to report on climate change. For example, 33% of their sample claimed never to watch current affairs programmes, 21% claimed they do not watch nature programmes and 16% that they do not watch news programmes. However, comparable findings in relation to the adult population (as studied and reported on by Ofcom, 2006b) are unavailable, thus it is difficult to establish whether the viewing behaviour of young people (in this context) is 'unusual' when compared to the rest of the population. In addition to this, these findings are based on self-reporting but with no explanation as to *why* they do not watch these programmes. Such an explanation would be useful to those developing ways to disseminate new information with regards transport and climate change (in that this could be based on a more thorough understanding of the sources of information to which young people are receptive).

Another explanation for the comparatively low percentage of respondents referring to the media as a source of information about climate change may lie in the apathy illustrated in relation to this issue as noted in Section 4.5.1.. In this sense, it is assumed that because they are unconcerned about climate change, they either do not seek out information in this context or they do not pay it much attention when it is presented to them. Additionally, young people are subject to promotional information and signals about the car via the mass media which may provide a conflicting source of information to that promoting the need to tackle climate change.

Further to this, there is little understanding of the degree to which media-based information and signals influence the attitudes of young people towards more environmentally friendly modes of transport such as the bus, train, walking and cycling. It therefore appears necessary to further explore this area. Young people may receive such information via promotional material released by governmental and NGO-led

[100] From this study it was found that, for adults age 16 – 65+, the average (self-reported) weekly TV viewing is 21.6 hours, the average (self-reported) weekly radio listening is 15.2 hours and the average (self-reported) weekly use of the internet stands at 9.9 hours.

educational and/or campaign material in relation to transport, climate change or both (such as that connected to 'Are You Doing Your Bit?'), as well as public transport companies. However in the latter case, as highlighted by the results of a workshop with the Ten Percent Club[101] reported in Appendix A, it has been found that a number of bus companies do not consider young people as a specific and important group of customers when attempting to improve the design and quality of their product as well as selling it. Participants in this workshop also suggested that promoting the bus as a 'greener' mode of transport would be misguided, although they also admitted to lacking an understanding of whether this is the case, or how to develop a 'clear message' about the bus in this context – specifically in order to attract younger customers.

In light of the need to develop effective methods of information provision about transport and climate change (in relation to policy and initiatives aimed at influencing young people away from an intention to drive towards use of more environmentally friendly modes) and with the issues highlighted above in mind, this thesis investigates more thoroughly the messages received by young people from the mass media in relation to all forms of transport, climate change and the link between these issues. It therefore also explores whether there are conflicting messages in this context.

4.5.3.2. School

According to DfT (2003), the nature of the national curriculum for schools in the UK means that young people are likely to be taught about the link between transport and climate change at various points during their school years. Geography is considered the key subject with regards understanding issues in relation to the environment, including the impact of transport. DfT suggest that, through what they learn in geography, 5-11 yr-olds (Key stages 1 and 2) will be able to investigate how changes to traffic volume (including that caused by travel to school) can affect the environment and 11-14 yr-olds (Key Stage 3) will be able to link political, economic, environmental and social factors with transport (DfT, 2003). In science, 11-14 yr-olds are taught about energy resources and the distinction between renewable and non-renewable

[101] The Ten Percent Club is a group of people (including representatives from bus companies from across the UK, marketing companies that work closely with such companies and academics and consultants with a professional interest in this industry) who meet regularly to discuss how the bus industry could increase patronage.

resources (which links to the energy used by motor vehicles), while 14-16 yr-olds (Key Stage 4) are taught about energy efficiency and the environmental implications of generating energy.

The subjects of 'Personal, Social and Health Education' (PSHE) and 'Citizenship' also teach young people about how to take responsibility for themselves and their environment and encourage them to get involved in the decisions that affect them and their community (DfT, 2003). For example, in Citizenship at Key Stage 4, pupils learn about,

> "…the wider issues and challenges of global interdependence and responsibility, including sustainable development and Local Agenda 21" (DfT, 2003).

Additionally schools may develop a School Travel Plan or 'Safe Routes to School' programme on the basis of reducing the environmental impact of transport, as well as improving safety and healthy living. Such a programme may include any of the following initiatives[102] (as identified by DfT, 2003):

- Traffic calming
- Walking buses
- School crossing patrols
- Cycle initiatives and training
- Cycle storage facilities
- Dedicated school bus services
- Bus timetables and reduced fares
- Car-share schemes

With respect to the uptake of information and signals provided to young people by schools, a significant proportion of the young respondents (45%) in Climatechallenge's (2006b) study referred to school as a 'recent source of information about climate change' (the second most popular answer). Further, nearly three quarters (73%) of the respondents claimed to have studied this subject at school at some point[103] and 72% of

[102] This is not an exhaustive list however.
[103] i.e. not necessarily in the 'recent' past.

these claimed they enjoyed doing so. However, although not in relation to transport and climate change specifically, DHC (2003) notes the potential for school to present conflicting messages in relation to environmental issues,

> "Commentators of all kinds described conflicts such as… not using recycled materials and not recycling within the school whilst teaching extensively on the subject. …It was felt that children are aware of conflicts between what they learn and what they see taking place but may not question it." (DHC, 2003)

With this in mind, in addition to investigating the messages young people receive about transport and/or climate change at school and the degree to which these may contradict each other, this thesis also examines whether young people do in fact question such conflicts.

4.5.3.3. Parents

According to Biddle et al. (1980) parents (and peers) may provide information and thus influence adolescents through two types of pressure – the expression of norms (notions about what the adolescent should or should not do) and the modelling of behaviour (when the adolescent considers the behaviour of the parent or peer acceptable/unacceptable and models/does not model their own behaviour on it). Biddle et al. also argue that adolescents may form two types of expectation in response to others' pressures – norms ("I should probably walk to school today") and preferences ("…but I would really like to go by car").

With this mind, a study carried out by Sandqvist (2002) (looking at adolescents' (aged 12-16 years) leisure activities, travel experiences and attitudes toward car-ownership in inner-city Stockholm) found that those young people growing up with their parents owning a car were likely to model their behaviour intention in reflection of this, "even if they do not find [the car] essential for themselves" (Sandqvist, 2002). A similar finding was made by Lex Report on Motoring (1999) and together these findings link to Social Learning Theory (SLT) (as introduced in Chapter Three) which suggests that the modelling of behaviour is as key to an individuals' learning as that via targeted information.

In contrast, Climatechallenge (2006a) report that only 9% of young people consider their family a source of information about climate change. Although it is not known whether this is because their family does not offer any information in this context, it has been found that the information and signals provided by parents in relation to transport stems more from providing for and protecting their family, rather than factors beyond this, such as the environment. As discussed in Chapter Two, the pursuit of jobs, houses, wealth, leisure pursuits and suitable schools (where, due to changes in local government legislation, parents can now 'choose' schools out of the traditional catchment area (Bradshaw, 1995; Parsons et al., 2000)) has led to people travelling further and land-use trends that support this. As a result, more and more of the journeys made by young people (which also include those in relation to out-of-school clubs, homework clubs and sporting activities (Smith and Barker, 2000)) are difficult to undertake on foot and are therefore often reliant on parents providing lifts via the car (RCEP, 1994; Dowling, 2000). In addition, Johansson (2006) refers to work by Elvin-Nowak (1999; cited in Johansson, 2006) which suggests,

> "…almost every mother worries daily about her child and feels guilty about not spending enough time with him or her.[104]" (Johansson, 2006)

Although car travel provides the least opportunity for parents to socially interact with their children, both Johansson and EPPI (2001) suggest that many parents appreciate the time they can spend with them by travelling together via this mode.

Parental fears in relation to stranger danger[105] and crime (Balzani & Borgogni, 2003; Timpero et al., 2004), as well as traffic safety (Fotel and Thomsen, 2004; AA Foundation for Road Safety Research, 2000[106]) are also key to the travel choices parents impose on young people, with greater freedom granted to older children (Sissons Joshi et al., 1997; Timpero et al., 2004). In addition, it has been suggested that young males are granted greater independence than their female counterparts (O'Brien et al., 2000), which Tranter and Pawson (2001) consider may be due to a

[104] Although it is recognised by this thesis that there may be some cultural differences between the Scandinavian population studied by Elvin-Nowak, it is assumed that such human-emotions are relatively universal amongst mothers and thus likely to be mirrored by those in the UK.
[105] Stranger danger relates to parents' fear that someone may bully, molest or kidnap their child (Valentine & McKendrick, 1997, cited in Johansson, 2006).
[106] This study found that parents consider safety an issue when allowing their children to walk alone or to cycle to school.

greater parental fear of molestation and assault in relation to girls, than in relation to boys.

Nonetheless, despite these findings, DHC (2003) found that the young people involved in their study were unconvinced that their parents influence their attitudes towards transport. This may be due to the increasing independence young people seek from their parents (Eccles, 1999) and their desire, in responding to research questions, not to admit that their parents have any influence on such decisions (i.e. a degree of impression management). As such, this thesis further explores the influence of parents with respect to the information and signals they provide young people about transport and climate change, the conflicting messages they may express as a result, and the degree to which young people are aware of, report on, and want to report on these issues. It also investigates the influence of family members beyond parents in this context, of which there appears little understanding in the literature.

4.5.3.4. Peers

Eccles (1999) describes adolescence as a time "to develop a sense of oneself as an autonomous individual" and from around the age of 10, young people begin to move away from (and become more independent of) their parents. As a result, they spend much more time with peers - a relationship which has been found to be equally important as the parent-child relationship in terms of interpersonal power and authority (Higgins and Parsons, 1983; Eccles et al., 1993). According to Dusek (1991), for young people,

> "…the peer group provides the opportunity for trying out various social roles, and sets standards for adolescent behaviour." (Dusek, 1991)

Dusek (as well as Allen et al, 2005; Clasen and Brown, 1985; Eckert, 1989; Ueda, 1987) also notes that, with increasing age, young people experience an escalating need to conform to peer group norms and standards,

> "…perhaps as a result of increasing egocentrism and the need to develop an identity. During the later high school years conformity declines as egocentrism abates and identity develops." (Dusek, 1991)

The impact of peer pressure would appear to stem from the need for young people to feel popular, which Dusek notes is in part dependent on an individual behaving in accord with group norms[107]. Such pressure has been found to influence the attitudes and behaviour of young people in relation to transport. For example, according to Williams (2007),

> "…teenagers travelling with teenagers - especially 16-17 year-olds – is a highly desirable social situation for them, involving status and peer approval, as it provides teenagers an environment in which they can be away from and independent of family." (Williams (2007)

Other research has also linked peer pressure with high risk driving behaviour amongst young people (Williams et al., 1997; Foss and Evenson, 1999; Ulleberg and Rundmo, 2002; Shope et al., 2003) and to a lack of willingness to wear cycle helmets (Lee and Mann, 2003). However, less is known about the impact of peer pressure on the environmental attitudes and behaviour of young people, or whether this is a factor at all in this context.

4.5.3.5. Role models

In addition to those insights into the degree to which young people model their behaviour on that of their parents (as referred to previously), Climatechallenge (2006b) asked the young people involved in their study to suggest any "famous people" that they believed cared about climate change - the answers to which may also prove useful with respect to Social Learning Theory (SLT). However, over two thirds of the respondents (69%) could not suggest any names. Of those suggestions that were made, Tony Blair was mentioned by 11% and 5% referred to members of the royal family and 5% to Bob Geldof. It may be the case that these young people consider their role models include members of their family (as suggested in Section 4.5.3.3.), friends or teachers, but they were not given the opportunity to 'choose' them in the Climatechallenge (2006b) survey as it was a prompted-answer question. The present

[107] It is noted that individuals can belong to different groups/more than one group beyond their peers (for example, they can include family, friends, work colleagues or sports team) and these groups may have different norms.

thesis therefore gives the importance of role models (in the context of transport and climate change) additional attention.

4.5.3.6. Experience

As already noted in Chapter Three (with respect to providing a feedback loop between travel behaviour and information) and Section 4.3.4. of this chapter, experience is also a key source of information. According to Eagly and Kulesa (1997) attitudes are either based on experience of the attitude-object (in this case 'the car', 'the bus', 'walking' or 'cycling') and are therefore considered to have an 'intra-attitudinal structure' (such as "I like cycling because I have always enjoyed cycling to school."), or they are based on more abstract attitudes and are therefore considered to have an 'inter-attitudinal structure' (such as "I worry about the impact of the car on the environment, so I'm going to walk to school more often.").

As such, Garling et al. (2002) explains that attitudes with an extensive intra-attitudinal structure are more difficult to change, because new information must compete with the concrete experiences people have had and the beliefs they already hold. In contrast, attitudes that are strong because of their inter-attitudinal structure allow for effective persuasion through messages containing arguments that highlight the value to which the attitude is linked (such as protecting the environment), and in this sense there is more freedom (rather than competition) to develop persuasive messages. Thus, in relation to the study reported by this thesis, attention is given to the degree to which the attitudes expressed by the participants are based on experience.

4.5.4. Confidence' and 'interest'

In addition to understanding from where young people receive information and signals about transport and climate change, with respect to *engaging* young people with new information, it is considered necessary to investigate the level of interest young people have in these issues, as well as the confidence they feel when discussing them and the type of language they use when doing so. Literature reporting on the interest and engagement of young people in issues relevant to them suggests that there are generally low levels of political interest among young people (Furnham and Gunter,

1987; Kimberlee, 2002; Mardle and Taylor, 1987; Park, 1995), thus it is assumed that young people are unlikely to engage with new information in relation to such issues.

Consideration of confidence and interest is also important with respect to carrying out social research, in that the researcher may incorrectly assume that the topic being investigated is a 'front of mind' issue for young people simply because it is for them. In this sense, it is important to create a research environment where young people do not feel pressured to express interest and to be able to talk about it if *they* want to. For example, if faced with a list of survey questions about transport and climate change they may well answer them, but this will not reflect their interest in these issues or the degree to which they would normally think about them. By using focus groups, not only is it possible to explore their understanding of this topic, but by working with young people directly, talking to them in a group situation (in this sense in an environment more reflective of their day to day social experience as young people), and assessing their body language and tone of speech, insights into their confidence and interest in transport and climate change may also be gained. These issues are discussed further in Chapters Six and Ten.

4.5.5. Attitudes towards transport

As explained in Chapter Three, despite the importance of providing people with information about transport and climate change, information is not the only factor that influences current/intended travel behaviour – including that of young people (Haigh, 1999[108]; Scottish Office, 1998[109]). Thus it is the purpose of the following sections to establish what and how these 'other' factors (utilising those identified in Chapter Three) influence the attitudes of young people towards transport and their willingness to tackle climate change via changes in their travel behaviour intentions (towards use of the car).

It was noted previously that attitudes are based on behavioural beliefs (about the likely outcome of behaving in a certain way) and these can be based on both a cognitive

[108] Haigh (1999) reported that there is little evidence that cycle-training, via information and instruction, leads to more cycling amongst young people (aged 11-16). Instead, it was concluded that additional, complementary measures would need to be implemented that address the fears of children in relation to cycling (i.e. targeting the affective component of attitude).

[109] Research for the Scottish Office (Scottish Office, 1998) found that road safety messages may be absorbed by young people (aged 12-15) but are not necessarily translated into action.

response and/or an emotional (affective) response to the attitude object. Relatively few studies have been undertaken to explore the behavioural beliefs and thus attitudes of young people in relation to transport, particular those in relation to their emotional responses to each mode. However two studies - those carried out by DHC (2003) and Turner and Pilling (1999) – prove useful. In relation to the car, DHC (2003) reported that for 5-11 yr-olds,

> "The benefits of cars are understood widely especially in terms of convenience, speed and comfort. Overall, however… They are seen as restrictive and boring to this age group" (DHC, 2003)

Similarly, Turner and Pilling (1999) found that 13-22 year olds considered the car comfortable and convenient and DHC report that 11-16 yr-olds express positive attitudes towards the car and a widely held desire to drive a car in the future. Further, DETR (1999)[110] found that the young people (aged 10-24 years) involved in their study understood that the car and the 'pollution' this causes has consequences for their health, but this was rarely used as a reason not to drive or to use the car (now or in the future).

With respect to the bus, DHC (2003) reported that primary aged children tend to accept the lack of 'cleanliness' they are subject to when using this mode and instead express positive beliefs in relation to it – particularly towards new vehicles, which they consider "fun, "cool" and attractive" (DHC, 2003). Secondary aged children also expressed positive beliefs in relation to the bus (although the school bus was "generally" considered unpopular), but for different reasons – seeing them as "reliable", "cheap" and "convenient". In contrast, Turner and Pilling (1999) found that the majority of young people in their study considered the bus *un*reliable – in turn referring to their feelings of discomfort when having to wait for an unreliable bus in bad weather. DETR (1999) also report that around 15% of young people (aged 10-24 years) consider bus drivers 'unfriendly or unhelpful" and that they lack patience.

[110] This report is based on a national study (in the UK) of young people's attitudes towards crime on public transport. It used a mixture of quantitative and qualitative research methods (collecting 582 completed questionnaires and following these up with focus group discussions) and worked with young people from schools and colleges in a variety of area types (i.e. inner city, suburban, large town and rural).

In relation to cycling and walking, DHC (2003) reports that secondary aged young people have generally positive attitudes towards walking, particularly the health benefits of this behaviour. Turner and Pilling (1999) reported that the participants in their study held the opinion that cycling is "good for the environment", but "otherwise unattractive". These findings therefore illustrate that young people's attitudes towards each mode of transport vary and for different reasons. However, although these findings are useful with regards developing promotional material aimed at reducing use of the car and increasing use of more environmentally friendly modes, it is held by this thesis that there is a need to gain further understanding in this context before such material can be based on a thorough understanding of the attitudes of young people towards them (as noted by EPPI (2001)). This is particularly important with respect to understanding young people's emotional responses in this context (although it is noted that such responses are touched upon by DHC (2003) and Turner and Pilling (1999).

4.5.6. Social and personal/moral norms

'Social' norms refer to an individual's beliefs about what other people in society think is the right thing to do, therefore peer pressure (as highlighted in the Section 4.5.3.4.) is clearly linked to this. However little is known about the influence of peers, or society at large, on the attitudes and behaviour of young people towards transport modes and their willingness to tackle climate change. There is a similar dearth of literature regarding the role of personal moral norms in this context, including 'willingness to tackle climate change' (via changes in travel behaviour). Nonetheless, Conger and Galambos (1997) explain that there is an important development in moral thinking during adolescence,

> "Seldom is a person as likely to be concerned about moral values and standards as during adolescence. …rapid cognitive development tends to make adolescents more aware of moral questions and values and better able to deal with them in a relatively sophisticated way. In addition, the social expectations and demands confronting young people, and the experiences they are undergoing, change at an accelerated rate during these years" (Conger and Galambos, 1997)

It is therefore assumed by this thesis that personal moral norms (including willingness to tackle climate change) influence the current and intended travel behaviours of young people - consequently it investigates this factor in more detail.

4.5.7. Self-identity, role-identity and image

In relation to their beliefs about society and how they view themselves within it[111], the attitudes of young people towards transport appear to be influenced by their self-identity, particularly in relation to their identity in becoming an adult. For example, both Turner and Pilling (1999) and Mackay (1997) found that a number of young people refer to the importance of driving and owning a car as a sign of "growing up". However, less is known about the role of self-identity in relation to the attitudes and behaviours of young people towards tackling climate change and using modes of transport other than the car. This issue is therefore investigated further by the present thesis, as is the influence of role-identity. It is assumed that individuals may refer to role-identities in relation to transport and/or climate change (or neither). For example, a person may refer to their role as "an environmental activist" and therefore their positive attitude towards cycling to school and reducing the impact of their current/intended travel behaviour on climate change, while at the same time they may refer to their role-identity as a driver and therefore their positive attitude towards the car and intention to continue driving or to learn to drive in the future. This thesis considers which (if any) role-identities appear to act as a stronger influence on the behaviour and behaviour intentions of the participants.

Image has also been found to influence the attitudes, behaviour intention and behaviour of young people towards the car. For example, Turner and Pilling (1999) report that young people consider image is "a major factor" in the decision to own a car or to drive. A similar finding was made by DHC (2003) who discovered that a number of their participants prefer travelling by car because this mode "looks better" than others. DHC also found that image was related to young people's decision not to cycle to school in that a number of participants refused to do so because their bike was "not cool enough". Further, when asked to rate different modes of transport as being

[111] Rather than their expectations about "what others think is the right thing to do" in the context of social norms.

"cool/trendy", the participants considered cycling (and taxis) to be the least attractive in this sense and the car and the train as the most attractive.

Consequently, one of the aims of this thesis is to understand in more detail *why* young people consider the car to have such an attractive image and why cycling is considered unattractive. As noted in Chapter Three, Goodwin (1995) provides useful insights in this context, referring to the degree to which the car can act as a symbol of more than just a mode of transport. According to Goodwin, cars can become a symbol of power and status (such as the size of a person's company car matching their position within a company) or a statement about the owner (for example, "Rovers are driven by older people"). The present thesis uses these insights to investigate whether such emotional symbolic meanings are attributed to the car by young people yet to drive or new drivers. The image and self-identity associated with more environmentally friendly modes is also considered, as well as the image young people associate with tackling climate change (in relation to themselves or others making efforts to do so).

4.5.8. Perceived behaviour control and self-efficacy

In Chapter Three it was noted that Anable et al. (2006) consider there to be little understanding of the beliefs underlying people's perceived behavioural control (PBC) over their current/intended travel behaviour. However, a number of studies provide insights into such beliefs in the context of young people. For example, the risk of cycle theft and vandalism, as well as unreliable storage facilities, have been found to act as a control factor on the motivation of young people to cycle (DHC, 2003). Further, Turner and Pilling (1999) found that the unreliability of the bus leads to young people feeling a lack of control over their personal safety due to waiting for the bus alone and/or at night. Young people have also been found to consider the inconvenience of the bus a control factor, due to,

> "…the perceived large distances to some bus stops, the fact that many services finish early in the evening, and that routes tend to travel between residential areas and the city centre, with very few travelling between residential areas or to and from facilities such as parks and out-of-town leisure complexes." (Turner and Pilling, 1999)

Several authors also suggest that the travel intentions of young people may be controlled by the weather. For example, EPPI (2001) reports that concern about being wet and cold may influence children to avoid walking or cycling or waiting for buses and Mackay (1997) found that young people only consider cycling "given suitable weather conditions." Further, Turner and Pilling (1999) found that the cost of trains and trams was limiting to many young people, as did DHC (2003) and DETR (1999). In comparison, the majority of young people associated cycling and walking as being free or low-cost.

Young people have also been found to consider the physical impact of cycling (i.e. arriving at school "all sweaty") a control factor (Armitage, 1998), as well as safety with respect to both cycling and walking. In relation to safety, several authors have found that young people feel that traffic prevents them from feeling safe enough to walk or cycle in the streets where they live (Barnado's, 2004; Cole-Hamilton, 2002; Thomas and Thompson, 2004) and Turner and Pilling (1999) found that such concerns lead some young people to rely more heavily on their parents to chauffeur them by car.

Self-efficacy (as introduced in Chapter Three) has also been found to act as a control factor influencing young people's ability to tackle climate change. Eccles (1999) reports that children enter middle-childhood years (7-11) with a sense of high optimism about their ability to carry out a wide range of tasks and activities, but by age 10 their optimism begins to decline. Thus self-efficacy is assumed to affect young people within the age groups considered by this thesis (11-18). Evidence that this is the case includes that gathered by Climatechallenge (2006) who found that, of all the people listed as potentially able to tackle climate change, only 12% of their participants felt that they themselves could help a lot (although 63% felt they could help a bit) and only 16% claimed that they were actually taking action[112]. Similarly, Connell et al. (1999) report on the attitudes of young people (aged 16-17 years) towards environmental problems in two Australian cities (Melbourne and Brisbane)). They found that their participants felt powerless to effect change themselves, or to affect the actions of others[113].

[112] Those young people felt could "help a lot" were identified as Government (by 78% of respondents), big companies (69%) and environmental groups (63%).
[113] Similar results were found by Hillcoat et al (1995) from a study also based in Australia. Further, but not specifically in the context of climate change (instead considering 'global issues' in general) MORI (1998) surveyed over 4,000 11-16 year olds (in the UK) and found that over half of these young people (54%) "felt powerless to do anything to change the world."

With these findings in mind, a further aim of this thesis is to investigate why young people feel a lack of self-efficacy in this context. Is it because they feel a lack of power as an individual or because they are too young? Do they feel their ability to make a difference is taken away by those older than them? For example, do their parents' fears for their safety leave them with no choice but to travel to school by car with their parents? Or do they not question this dynamic, consider themselves equal in terms of power, or more powerful that those older than them? Do they believe when they are adults they will be able to effect change? Research in this area is scarce, although there is evidence to suggest that adults may impose a sense of powerlessness on young people. For example, Richard Kimberlee (2002) considers why British young people do not vote at general elections, and despite concerning itself mainly with young people between 18 and 25, still introduces some interesting ideas in relation to how older people see young people. It is postulated here that the following types of attitudes may influence young people's feelings of self-efficacy:

> "Contemporary youth are frequently compared unfavourably with the radical 1960s generation (Thomson, 1992; McCormack, 1998, both cited in Kimberlee, 2002)…Lord Irvine expressed the belief that young people today were suffering from 'ignorance and alienation' because they project a 'don't care culture' towards the world (White, 1998, cited in Kimberlee, 2002)." (Kimberlee, 2002)

These comments also illustrate that attitudes may change on a temporal scale, here due to increasing age and the perceptions held by both age groups towards each other. In this sense, although young people consider themselves powerless due to their treatment by those older than them, they may well treat young people in the same way once they become part of the adult world.

In relation to transport specifically, it has also been found that young people feel that they are subject to a lack of respect from bus drivers (which is held here to reduce the level of control they feel as a consumer of this mode) and they tend to blame this on their age (Turner and Pilling, 1999). Barker (2003) also suggests that there is a lack of consultation between those in a position to influence transport-related behaviour change amongst young people and young people themselves – using Safer Routes to Schools programmes as an example:

> "'Safer Routes to Schools' (SRS) programmes are developed in partnership by head teachers, governors, parents and other interested local organisations or individuals …However…there are only a few examples of this partnership being extended to include children. …Reflecting the experiences of many other government initiatives, children are constructed as the passive recipients of policy rather than as political actors and are rarely involved as stakeholders in decision-making processes." (Barker, 2003)

In addition (as noted in Chapter Three) it is postulated that people may still feel a lack of self-efficacy in relation to tackling climate change, even with information about how to change their behaviour in this context, due to their belief that other people will not act in the same way thus rendering their own efforts pointless. This links with the idea of the Social Dilemma and is considered an issue also requiring further exploration. Thus this thesis explores further the degree to which young people lack a sense of self efficacy in relation to tackling climate change (via changes in their current/intended travel behaviour in particular) and the reasons why they feel this way.

4.5.9. Awareness of consequences and ascription of responsibility

According to Newman and Newman (1991),

> "…the changes in conceptual development that occur during early adolescence result in a more flexible, critical, and abstract view of the world. The abilities to hypothesize logical sequences of action, to conceptualise change, and to anticipate consequences of actions all contribute to a more realistic sense of the future (Klineberg, 1967; Lessing, 1972; both cited in Newman and Newman, 1991)" (Newman and Newman, 1991)

Accordingly, it is assumed that young people are capable of understanding that there will be consequences of their behaviour and that they are responsible for these. However, several authors suggest that young people do not feel responsible for the *environmental* consequences of their behaviour (e.g. Uzzell, 2000). For example, as noted previously, only a third of young people believe 'road emissions' are a cause of

climate change[114] and of these, only 61% felt they themselves contributed to climate change in this way (in contrast to the 79% of the adult population who believed that they did) (Climatechallenge (2006b). This may be reflective of the lack of responsibility young people feel in this context - perhaps because they are passengers in the car and in this sense have not necessarily chosen to travel this way. However, Climatechallenge (2006b) also reported that young people are much less likely than the adult sample to believe they contribute to air pollution, global warming, burning fossil fuels or the hole in the ozone layer, suggesting that this lack of responsibility may stretch beyond that in relation to the car.

Offering further explanation as to why young people lack a sense of responsibility, Connell et al. (1999) suggests that young people (aged 16-17) spend little time thinking about the future in the context of other people[115] and DETR (1999) report that a number of young people believe the problem of climate change will be solved by the time they will be driving. However, considering the general lack of literature relating to the influence of 'awareness of consequences' and 'ascription of responsibility' with regards the age group considered by this thesis (particularly in relation to the impact of transport on climate change and the impact of their own current and/or future intended transport behaviour in light of this), this thesis investigates further the influence of these factors.

4.5.10. Cognitive dissonance and impression management

In relation to the lack of concern expressed by young people with respect to climate change and the impact of transport on this, DHC (2003) found that young people (aged 11-16) expressed a lack of awareness of the 'environmental impacts' of transport, but suggest that this finding,

> "…is probably a reflection of attitudes and behaviours that older children wish to display, rather than of their understanding levels." (DHC, 2003)

[114] In comparison, only 26% of the adult sample pointed to this cause (Climatechallenge, 2006a).
[115] Similar findings are reported by Filho (1996) and Cullingford (1996) in relation to children below the age of 11.

This idea can be linked to the theories of cognitive dissonance, and/ or impression management as introduced in Chapter Three. These may play an important role not only in relation to the study undertaken by DHC (2003), but to any of those reported in this chapter and that carried out by this thesis. Young people may well understand the environmental impact of transport (or more specifically its impact on climate change), but as their travel needs and their aspirations for independent, personalised travel increase with age (as found by DHC, 2003), it appears that their behaviours (both current and intentional) no longer correspond with this understanding. Thus it is postulated here that they change their expressed level of concern about climate change and willingness to tackle this issue, rather than their current/intended behaviour (or expressed behaviour intention) to reduce the discomfort they may feel, rather than their true level of concern about this issue. In this sense, the lack of concern expressed by young people may not be reflective of their true willingness to tackle climate change at all. Suitable methods of assessing and exploring these issues are discussed further in Chapters Five and Six.

4.5.11. Habit

Despite the fact that young people, below the age of licence acquisition, are not in a position to form habitual (or 'automatic') behaviours as car drivers, research in South Yorkshire has indicated that travel habits developed at a young age can influence subsequent behaviour (Goodwin et al, cited in DfT, 1999). However, if such habits do exist, one way in which they may be broken is through the changes in life-stages a young person may be subject to - in that new information is more likely to be listened to as a result. As noted in Section 4.2., according to Ryley (2006),

> "A life stage can be defined as a specific, optional event such as learning to drive, moving home, moving job or having children." (Ryley, 2006)

In relation to young people this could mean moving school, leaving school, entering the work force, leaving home or gaining the ability to learn to drive – each of which may lead to an individual requiring new information about how to meet their current or future travel needs. If such life-stages do break habits in this way, targeting information provision (in relation to transport and climate change) at individuals undergoing such

changes may be particularly effective. Therefore, this thesis attempts to explore whether such life-stages exist.

4.5.12. Gender

In relation to gender, studies using this as a predictor of environmental value orientations (such as being concerned about transport and climate change) tend to show a mixed pattern of findings. For example, Van Liere and Dunlap's (1980) review of 21 studies from the 1960s and 1970s suggests that while some research has observed a correlation between gender and environmentalism, other investigations have not reported a significant relationship. Nonetheless, in a study reporting gender differences, Steger and Witt (1989, cited in Vaske et al., 2001) found that women are more likely than men to display pro-environment value orientations and hold more pro-preservation normative beliefs. Other reviews (e.g. Mohai, 1992) come to a similar conclusion, but suggest that women are more concerned with local (as opposed to national) environmental issues than men. More recently, O'Connor et al. (1999) carried out a quantitative analysis of the relationship between risk perception and willingness to address climate change and found that women were more likely to take action than men.

Gelissien (2007) suggests that these findings (which indicate women are more concerned about the environment that men) are usually explained as either the effect of women's traditional gender socialisations, a motherhood mentality or an ethic of care, which would extend traditional child- and care-taking expectations to protective attitudes toward nature (Hunter et al., 2004, cited in Gelissien, 2007). Conversely, Gelissien considers,

> "Male socialisation emphasises an economic provider role and encourages men to be more rational, masterful, accumulative, and competitive than women. This would lead to a "marketplace mentality" that is related to unecological attitudes emphasizing economic growth, technical mastering of the earth, and exploitation of resources, regardless of any seriously negative effects on the environment (Blocker and Eckberg, 1997, cited in Gelissien)" (Gelissien, 2007).

The attitudes of young people towards transport have also been found to vary according to gender. For example, Nilsson and Kuller (2000) found that "girls take the environmental problems of cars more seriously than boys", but that gender has no impact on the "car affection" held by young people. In addition, DHC (2003) found that girls were more comfortable talking about these issues than boys. Why this difference occurs is not clear, although taking into consideration those comments made by Gelissien above, it is suggested here that they may be linked to the gender-related self-identities and/or images young people associate with different transport modes. Gaining a deeper understanding of this issue is a further aim of this thesis.

4.6. Discussion

From the arguments presented in this chapter (building on those in Chapter Three), it can be said that young people's current and *intended* transport behaviour is influenced by their attitudes, social norms, personal moral norms (which may or may not include a willingness to tackle climate change through changes in current/intended travel behaviour), self-identity and image, modelled behaviour, perceived behavioural control, actual behavioural control, and awareness of consequences and ascription of responsibility. It is also postulated that life-stage and gender will impact on all of these factors and habit is assumed to impact on transport-related behaviour directly. In turn, each of these factors is formed on the basis of the individual's understanding of transport and climate change (and the link between the two) which is based on the information and signals they receive about these issues, from a variety of sources.

In addition to this, it is assumed that an individual's current and/or intended behaviour is not necessarily reflective of an individual's attitude (reflecting the importance of the attitude-behaviour gap discussed previously) and that there is an important feedback loop between travel behaviour (i.e. the experience of using a given mode) and information about (and therefore understanding of) transport. Once a travel behaviour has been carried out, the experience will provide new information.

However, despite this understanding, a number of areas have been identified as needing further exploration in this context – firstly the need to develop qualitative, participatory methodologies that allow young people to express their thoughts in their

own words and in a non-threatening environment. Secondly, it can be said that the travel behaviour of young people, although more 'environmentally friendly' than that of people over the age of licence acquisition (in that young people are the greatest users of more environmentally friendly modes of transport than the car), it appears set to follow that of those over the age of 17, since the majority of young people *intend* to drive in the future. It is therefore the main aim of this thesis (and was therefore the purpose of this chapter) to investigate *why* young people intend to move away from more environmentally modes towards the car. Within this, the present thesis aims to:

1) Explore (and in doing so gain a deeper understanding of) the attitudes of young people towards transport modes, their willingness to tackle climate change, and whether their willingness to tackle this issue acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour (away from an intention to drive, towards an intention to use more environmentally friendly modes).

2) Develop and implement a methodology that focuses on understanding the thoughts, feelings and actions of the young people involved in the research in their own words, reflecting both the subjective nature of attitude and the importance of engaging with this particular age group.

In meeting aim one, a number of other 'sub-aims' have been identified:

Firstly, this chapter established that young people lack a sound understanding of climate change and that there is a need for improvement in this respect, particularly in relation to their sophisticated understanding of climate change. As such, it was/is considered important to identify the sources of information and signals that influence young people in this context and a number of 'sources' have been identified through the literature (these being the mass media, school, parents, peers, role models and experience) However, not only is there a need to improve understanding in relation to the information young people gain from these sources and the degree to which they recognise and/or want to recognise then, but by investigating these issues further, it was assumed that 'new' sources of information (in this context) may come to light via the primary data collection reported by this thesis.

Secondly, it was concluded that several other factors, in addition to the provision of information, may be responsible for the apparent lack of concern expressed by young people in relation to climate change and their intention to move away from more environmentally friendly modes of transport towards the car. Firstly, there is an important development in moral thinking during adolescence and it is therefore assumed that personal moral norms (specifically 'willingness to tackle climate change') may well influence the attitudes of young people in relation to these issues - although there is a dearth of literature in this area. Secondly, the attitudes of young people towards transport appear to be influenced by their self-identity, particularly in relation to their identity in becoming an adult. However, less is known about the role of role-identity or self-identity in relation to young people's attitudes and current/intended behaviours towards climate change or their use of more environmentally friendly modes.

It also appears necessary to consider: why young people feel a lack of self-efficacy in relation to tackling climate change and why they do not feel a sense of responsibility in this context; if there are significant differences in the attitudes and current/intended behaviours referred to by young people in relation to gender in this context; and the role of cognitive dissonance and impression management in the responses given by young people when discussing this subject. Further, although young people below the age of licence acquisition are not in a position to form habitual (or 'automatic') behaviours as car drivers, they may do so with regards other modes of transport and their behaviours in relation to these. As such, targeting information at the point at which young people progress through certain 'life-stages' is considered necessary in that these represent a point at which they are more likely to be receptive to new information about their current/intended travel behaviour. An understanding of such habits and life-stages is therefore an additional aim of this thesis.

In meeting aim two of this thesis, Chapters Five and Six consider the issues involved in developing an effective methodology for meeting aim one, while working with young people. As such, the attention of this thesis now turns to an account of the methodology chosen.

Chapter Five
Developing the methodology

5.1. Introduction

Chapters Three and Four highlighted various methodological issues in relation to studying the attitudes of society towards transport and their willingness to tackle climate change via changes in their current and, more importantly, intended travel behaviour. Firstly, it was noted in Chapter Three that, in order to more effectively explore peoples' emotional response to transport and climate change, there is a need to move away from statistical quantification of individual preferences, attitudes and actions, towards more qualitative research methodologies (Sheller, 2004). At the same time, the Theory of Planned Behaviour, the Norm Activation Theory and Value Belief Norm Theory rely heavily on eliciting information via survey questionnaires and interviews using other people's words to define the factors being explored. Instead, it is asserted by this thesis that methods need to reflect the subjective nature of attitude and thus investigate individuals' attitudes in their own words.

In Chapter Three it was highlighted that the UK public express a desire for more information about climate change and in response, Anable et al. (2006) suggest that participatory methods should be used to explore what people want contained in this information. In explaining why such methods are needed, Anable et al. point to the difficulties in establishing such an understanding using self-completed questionnaires where there is nothing for people to lose in over-claiming that they require more information and where there is no opportunity to explain and/or discuss with others what this new information might look like.

Further to this, Chapter Four highlighted the need to develop suitable methods of assessing and exploring the influence of cognitive dissonance and impression management in relation to young peoples' responses when discussing transport and climate change. It was also noted in Chapter Four that such a methodology should allow people to express their interest, lack of interest and confidence with the subject matter under investigation.

With these factors in mind, the present chapter presents a review of the literature regarding research methodologies in the context of young people, with particular reference to those suitable for exploring attitudes and current/intended behaviour in the participants' own words. As such, it begins by discussing the degree to which young people have been, and currently are, consulted about matters that affect their lives and why this is important. Attention then turns to an identification of the most suitable methodology for exploring the attitudes of young people towards transport and climate change. In doing so, a discussion of the suitability of quantitative or qualitative methods is presented, which leads to the identification of focus groups in combination with the use of photography and picture prompts. The chapter finishes by presenting an evaluation of the validity/trustworthiness of using this methodology.

5.2. Consulting young people

A number of commentators refer to a lack of consultation with young people about the matters that affect their lives and identify various reasons for this. Mouritsen (2002) suggests it is partly the result of adults believing they already understand what it is to be a young person, simply because they were once this age themselves (despite the length of time that may have elapsed since this was the case and the changes in society that have occurred as a result). Comments by other writers suggest that young people have become invisible as citizens (and are therefore not considered for consultation) due to their inability (if they are below the age of 18) to "vote, lobby, organise or campaign" (Mayall, 2002). Therefore, their voice has been excluded from political culture (Kulynych, 2001).

However, Bragg (2007) illustrates that, since the end of the 20th century, there has been a growing legal, political, academic, economic and social interest in accessing and understanding the perspectives of young people in relation to their own lives. The main international influence on this has been the UNCRC's[116] (General Assembly, 1989) recommendation that children should be informed, involved and consulted about all activities that affect their lives, including research. In the UK, various political initiatives have been implemented to represent children's views and to protect their interests (Bragg, 2007). For example, in England and Wales, the Government has

[116] United Nations Convention on the Rights of the Child.

created the Children and Young People's Unit (CYPU) and appointed Children's Commissioners in London (in 2000), Wales (in 2001) and England (in 2005). In addition, as a consequence of The Children's Act of 1989 (implemented in 1991), it is a legal requirement that young people are consulted and involved in the process of decision-making regarding matters that affect them, and that consideration is given to how this is carried out by those professionals whose work has an impact on the lives of children and young people (Davie et al., 1996).

Academic interest in young people has also increased, particularly in the social sciences, where Bragg (2007) comments,

> "The new social studies of childhood have challenged the tendency to consider children either in relation to larger entities of which they are a part (such as families, schools, nations, or as 'becomings' (that is as persons growing to reach mature adulthood, of interest primarily because of who and what they will become in the future)). Instead, new studies have argued for a view of children as 'beings', fully-formed now, whose present ideas, approaches to life, choices and relationships are of interest in their own right." (Bragg, 2007)

In addition, Bragg (2007) suggests that young people are an increasingly important market segment, capable of influencing family purchasing decisions and viewed by those in marketing as 'consumers' of the goods and services (held by this thesis to include public transport) they receive, rather than citizens - further justifying the importance of understanding what young people think and want. It is also argued that research with young people will benefit the participants themselves in relation to confidence, competence, trust in adults and themselves, self-esteem, and social inclusion (Kirby and Bryson, 2002). Consequently, it can be said that consultation with young people is increasingly recognised as an important part of understanding and engaging with all members of society. In aiming to achieve the same, it is to an identification and development of suitable methods (in order to do so) that this thesis now turns.

5.3. Identifying 'suitable' research methods

Barker and Weller (2003) comment that a variety of methodologies have been used to research children and young people over the past thirty years and Christensen and James (2000) suggest that there may be no entirely 'unsuitable' method for this age group. However, considering the aims of this thesis, some methodologies can be identified as being *more* suitable than others. With this in mind, this section does not intend to provide a generic review of research methods, but instead aims to establish which methods are most suitable for working with young people and when exploring their attitudes and current/intended towards transport and climate change specifically.

5.3.1. A quantitative or qualitative approach?

In much of the literature concerning research methods it appears writers find it helpful to distinguish between quantitative and qualitative approaches and although such a distinction can be considered ambiguous, Bryman (2004) notes that,

> "…there is little evidence to suggest that the use of the distinction is abating and even considerable evidence of its continued, even growing, currency." (Bryman, 2004)

Quantitative methods emphasize the testing of theories by the gathering of facts (in a way that is value-free) that provide the basis of laws. As such, they incorporate the practices of the natural scientific model and positivism in particular, thus taking the view that social reality is an external, *objective* reality (Bryman, 2004). The most commonly used quantitative data-gathering methods in the social sciences are therefore the self-administered questionnaire and the structured interview (Blaikie, 2000) and there are various advantages to these types of methodology. Questionnaire surveys can provide an economical method (by gaining responses from large numbers of people); confidentiality, privacy and anonymity; and responses that can be organised and analysed quickly and efficiently. At the same time, they are considered popular with young people due to their familiar form (such as those found in the youth media – i.e. teen magazines (Bragg, 2007)) and inclusive in that they can remove the issue of shyness or inability/dislike of writing amongst young people. The advantages of

structured interviews again include the inclusion of those who have difficulties writing, as well as the ability of the interviewer to explain questions if there are any misunderstandings. They also tend to elicit more depth information from the respondent than questionnaires (Bragg, 2007)[117].

However, reflective of those issues referred to in Section 5.2., it is also reported by Bragg (2007) that,

> "Children have often been excluded from large-scale quantitative research, or data has been collected about them from carers and parents, in line with the view that they are not competent social players." (Bragg, 2007)

At the same time, and with particular relevance to this thesis, such methods have been criticised for viewing (young) people as objects of research rather than part of the research process, (where research is carried out 'on' rather than 'with' young people (Hill et al., 1996; Mauther, 1997). It is argued that quantitative methods reinforce the scenario where research is focused upon adult interests, rather than the interests of children (Hood et al., 1996, Valentine, 1999) and children therefore lose the ability to speak for themselves (Oakley, 1994, Christensen and James, 2000). Questionnaire surveys and structured interviews are developed using the words of other people (often adults) and in doing so, the ability to explore the attitudes and beliefs of young people in their own words can become difficult, if not impossible.

Bragg (2007) also considers such methods can be 'over-used' and thus respondent fatigue occurs where individuals, bored with filling out questionnaires[118], may become 'flippant' in their responses. As a result, these responses are no longer reflective of their true attitudes towards the issue being investigated. A number of other disadvantages to the use of survey questionnaires can also be identified:

- They tend to deal with only a narrow range of issues, which are capable of being expressed in a limited form,

[117] A number of authors suggest such quantitative methods may be useful in relation to young people in particular, in that quantitative data can provide information regarding the implementation of children's rights (see DoH, 1994; UN Committee on the Rights of the Child, 1995) and/or the location of children's lives within the wider socio-politico-economic context (Hood et al., 1996).

[118] Which David (1992) and Smith and Barker (1999) also found to be linked to the idea that young people consider such methods "no fun".

- Responses can be hard to analyse, as reasons for answers are not given,
- They tend to rely on reading skills; younger children may require support and more time to complete them, and
- They can be manipulative in shaping questions to ensure a particular response is given or to approve policies that have already been decided.

(Source: Bragg, 2007)

With respect to structured interviews it can be said that some young people may not be comfortable (or used to) talking to an adult on a one-to-one basis. At the same time this method can be expensive and time-consuming in that interviewers have to be trained and paid (Bryman, 2004) and the data cannot be gathered 'all at once' (in comparison to questionnaires which are sent out and often returned in bulk). Further, like questionnaires, this method does not allow young people to talk about a subject in their own words, or to introduce issues the researcher may not have considered.

As such, there is a growing body of literature that emphasizes the need to utilise qualitative methods that reject the assumption that social reality is objective and 'external' to the individual. Instead, such methods assume social reality (with respect to a person's attitudes and beliefs) is subjective and internal to the individual and can therefore only be understood by entering the social world of the individual by allowing them to speak for themselves (the importance of which has already been highlighted in Chapters Three and Four), or observing their 'natural' behaviour. Bryman (2004) states that qualitative methods,

> "…[reject] the practices and norms of the natural scientific model and of positivism in particular in preference for an emphasis on the ways in which individuals interpret their social worlds." (Bryman, 2004)

Further to this, Williams et al., (1989) report that it is more profitable (with respect to the depth of data elicited) to encourage children to use their own language (and ways of communicating) rather than asking them to attempt to understand and reply to questions using other people's words. In support of this, the ESRC Children 5-16 Research Programme[119] has accumulated a large body of research obtained using

[119] This programme lasted for over five years (1995-2001) and comprised 22 linked research projects, "each looking at a different aspect of children's social lives, living conditions, experiences and perspectives." (Prout, 2002)

such methods[120] and concludes that young people are 'keen and effective commentators' on their own lives. However, despite various advantages to the use of qualitative methods (particularly in the context of this thesis) there also remain several disadvantages. Subsequently, the following section highlights why *certain* qualitative methods may or may not be suitable with respect to meeting the aims of this thesis.

5.3.2. Identifying the most suitable qualitative method

The process of identifying which qualitative methods may be suitable for carrying out the collection of primary data for the present study was not one of dismissing options, but instead a process of weighing up which would prove most suitable in relation to exploring the attitudes of young people towards transport and climate change in the context of the time and financial limitations of the study. Four methods are considered in detail: unstructured or semi-structured interviews, focus/discussion groups, ethnography/participant observation and visual methods.

Unstructured or semi-structured interviews are a popular method of exploring attitudes in that, unlike survey questionnaires or structured interviews where people are asked the same questions, they allow the participants (and therefore the researcher) to pursue issues of interest rather than *solely* following a questioning route (or 'moderator guide') developed prior to the interview. As such, they are likely to provide more 'thoughtful' responses (Bragg, 2007). They can also reveal insights of which the researcher may not previously have been aware. It can also be assumed that such interviews allow easier exploration of individual circumstances (such as access to public transport or a family car) than focus groups (as discussed below), in that attention is fixed solely on one person. In the same vein, because participants are questioned alone, one-to-one interviews can also remove the influence of peer pressure/intimidation that may be apparent when using discussion groups. For these reasons, interviews were considered a suitable methodology for the primary data collection for this thesis.

However, it has long been suggested that a threat to the validity of one-to-one interviews lies in young people responding in ways that they believe the researcher

[120] Including focus/discussion groups, participant observation, and participatory research such as drawing and photography.

desires (Donaldson, 1978) – although this is not likely to be something confined to young people or interviews, in that research participants may be influenced by what participants believe the researcher is looking for when using any form of methodology. Nonetheless, in the present study this particular methodology was limited by its need for the researcher to spend time alone with the participants – something the schools and scout group were unhappy about on ethical grounds.

At the same time, although it can be considered an advantage to interviews, their ability to remove the influence of peer pressure was not a prerequisite of the present study. To the opposite degree, this is an issue it wished to explore. Thus, group interviews (also referred to as 'focus' or 'discussion' groups) were identified as a way to harness the benefits of unstructured/semi-structured interviews as noted above, as well as resolve (or at least reduce) the disadvantages of this method – most notably the issue of participants having to be alone with the researcher.

Focus groups originated from an interview technique called focused interviews elaborated by Lazarsfeld and Merton in the early 1940s (Rogers, 1994) and first described by Merton and Kelly in 1946 (Merton, 1987). Morgan (1996), who in the last decade has written several books about the method, defines focus groups as 'a research technique that collects data through group interaction on a topic determined by the researcher'[121]. The data generated by this method, are thus interactive and qualitative (Wilkinson, 1998).

Focus groups have been extensively used in advertising and market research, in political campaigning (for example, to explore people's reactions to wartime propaganda in the 1920s and 1930s) and as part of public policy and communications research (Krueger, 1994, Morgan, 1988, Merton, 1987). They have also been used in education (Lederman, 1990), linguistics (Myers, 1998), health research (Kitzinger, 1995; Powell and Single, 1996), feminist research (Wilkinson, 1998) and social science research (Bloor, 2002; Goebert, 2002).

In comparison to interviews, focus groups allow information to be gained from a number of young people in one sitting - meaning that the process of data collection

[121] Similar definitions include 'a carefully planned discussion designed to obtain perceptions on a defined environment' (Krueger, 1998d), and 'an informal discussion among selected individuals about specific topics' (Beck et al., 1986).

relative to the number of participants involved is more efficient than that of interviewing. Like unstructured/ semi-structured interviews, they are used to elicit views, perceptions and attitudes on a given topic, but in addition they also allow for group interaction (which, among other advantages, is particularly important with regards assessing peer dynamics amongst young people) and provide greater insight into why certain opinions are held,

> "Statements are often incomplete: people's sentences tail off into silence or their friends finish what they are saying on their behalf; some points of view are drowned out by ridicule and people contradict themselves and change their minds. The data are messy and sometimes incoherent. However, these are precisely the sorts of problems that, I believe, make focus groups a useful method for exploring people's understandings and experiences. The technique enables the researcher to examine people's different perspectives as they operate within a social network and to explore how accounts are constructed, expressed, censured, opposed and changed through social interaction." (Kitzinger, 1994)

Kitzinger (1994) also notes that focus groups can allow the researcher to explore people's assumptions, models of thinking and moral values, and therefore emphasises that such discussions recognise that factual information is not the only influence on a person's attitude and behaviour towards a given subject – thus reflecting comments made in the same vein in Chapter Three of this thesis,

> "Patterns of thinking, the categories we use to organise our ideas, the images and connections through which we conceptualise an issue, may be more important than the different *facts* that we *know*. It is in illuminating these dimensions that focus groups are of particular value; this applies not only in relation to questionnaires, but also in relation to individual interviews." (Kitzinger, 1994)

In addition, Morgan (1988) suggests that discussion groups draw out information in a way that allows the research to find out why an issue is prominent, and at the same time, what is salient about it. As such, Lankshear (1993) suggests that the gap between what people say and what they do may be better understood, thus also

providing a useful way to assess the influence of cognitive dissonance and impression management.

Although Morgan et al. (2002) suggests the use of focus groups to study children's experiences remains at an exploratory stage, various studies illustrate the successful use of discussion groups with the age group considered by this thesis, as well as children younger than this (including Parry-Williams, 1998[122]; Morrow, 2001[123]; Oates et al., 2003[124]; Grant and Stephen, 2005[125]; Yuen et al., 2005[126]; Stafford et al., 2003[127]). There are also various reasons why focus groups are considered particularly suitable for working with young people. For example, Litosseliti (2003) points to the sense of empowerment that can be achieved by this method, via its emphasis on participants' own language and the process of developing and re-framing their views as a result of collaboration. In this sense group talk may be less stilted, more natural, more reflective, and allow for the 'social nature' of children (Lewis, 1992). For these reasons Bragg (2007) also believes young people may be less 'intimidated' by this method than quantitative methods. Also, with direct relevance to the aims of this thesis, Smithson (2000) believes focus groups allow participants to share understandings of everyday life, everyday use of language and the culture of particular groups via the discussion group environment, which in turn allows them to develop ideas collectively and in their own words – reflecting peer group interaction.

However, one of the main issues when using focus groups is the difficulty of assessing whether the behaviour referred to by participants is their 'actual' (or 'true') behaviour (as opposed to 'expressed' behaviour). In contrast, ethnography (or 'participant observation') *is* capable of achieving this. According to Bryman (2004),

[122] Parry-Williams (1998) reports on an evaluation of the Save the Children Female-headed Households Project in Tajikistan. 15 young people aged 12-16 acted as evaluators and took part in semi-structured focus groups.
[123] Morrow (2001) reports on a research project exploring Putnam's concept of 'social capital' in relation to the well-being and health of young people. Research was carried out with 102 children aged between 12 and 15, and successfully utilised focus groups and photography. This research is referred to in more detail later in this chapter.
[124] Oates et al. (2003) report on a study exploring children's understanding of television advertising using focus groups. 182 children aged 6 to 10 years took part.
[125] Grant and Stephen (2005) used four focus groups, involving 24 girls aged 12 to 14 years, to examine younger teenage girls' purchasing decisions for fashion clothing and the impact of brands on their behaviour.
[126] Yuen et al. (2005) report on a study exploring participation in leisure activities, involving 32 eleven year old children using focus groups (and participant observation).
[127] With the lack of consultation with young people in mind, Stafford et al. (2003) carried out a study involving 200 children and young people aged between 3 and 18 years from across Scotland. A qualitative, participatory method was employed utilising group interviews.

> "Ethnography and participant observation entail the extended involvement of the researcher in the social life of those he or she studies" (Bryman, 2004)

As such, their primary purpose is to describe and interpret a culture or social group (Bloor and Wood, 2006) via the emersion of the researcher in this culture or group. However, such methods require a great deal of time - often months are spent observing individuals or groups 'in the field', followed by periods where the researcher steps back from this process to reflect on what has been found, before entering the field again. With this in mind, although ethnographic studies are useful with respect to eliciting information about behaviour in addition to attitudes, it is held that focus groups pose the most suitable method of data collection in the context of the present study due to the time limitations posed by ethnography. In this sense, focus groups allow the researcher to spend *relatively* less time gathering data, and more time analysing it than is allowed by ethnographic research (Litosseliti, 2003[128]). For this reason (and the other advantages to using focus groups outlined above), focus groups were chosen to play a central role in this thesis.

In addition to this, visual methods were also chosen due to their ability to 'enhance' focus groups when used as prompts for discussion and to engage research participants in the research process. Such methods often involve asking research participants to express thoughts artistically via a photo, video, or drawing and they have been found to encourage thinking (Adams, 1991) and aid discussion (Parry-Williams, 1998; Morrow, 2001). According to Vygotsky (1971), art and thinking are closely connected and Arnheim (1969) argues that visual arts are a source of visual thinking, because thinking calls for images, and images contain thoughts. In support of this, Clark (2004) considers photography, as a form of art, can harness both the verbal and non-verbal ways in which young children communicate their feelings about a subject. Collier and Collier (1986) suggest such subjects include,

> "…complex dimensions of social structure, cultural identity, interpersonal relationships, and psychological expression" (Collier and Collier, 1986)

[128] Litosseliti (2003) states, "[Focus groups] provide the opportunity to ask people to discuss their views about or approaches to activities that span many days or weeks, something that would take considerable amounts of time and resources to observe directly. Focus group methodology allows for flexibility in examining a range of topics with a variety of individuals, sometimes more directly and less expensively than, say, individual interviews."

According to Orellana (1999) and Aitken (2001), photography is an increasingly popular children-centred method. Disposable or instant cameras are simple for young people to use (Hart, 1997) and Barker (2003) notes that giving young people the responsibility of a camera also helps to forge a relationship of trust with the researcher as well as a sense of empowerment[129].

Several case-studies illustrate that photography can be used effectively by young people, even by those as young as three (Kirby, 1999). Sharples et al. (2003) carried out a study of 180 'children as photographers' at three age levels (7, 11 and 15) across five European countries and found that the way in which the young participants took photos supports the notion that, as children develop, they become aware of their identity in relation to their surroundings and other people. However, Sharples et al. used a quantitative coding mechanism to analyse the photos, which was carried out (and interpreted) by an 'outsider' alone – thus removing the opportunity for young people to explain the thoughts behind their photos and their responses towards the same (Ball and Smith, 1992). In comparison, Morrow (2001) took a more qualitative approach to the collection and analysis of photos by the participants in their study – instead using them as way to engage young people in the process of research and allowing the significance and/or meaning of the photos to be communicated via discussion groups. It was Morrow's approach to using photography as 'picture prompts' that was utilised by this thesis. Thus, the content of the photos elicited by the participants in the study was not considered of importance beyond its ability to trigger thinking amongst the participants before and during the discussion groups. For this reason, it is noted in Chapters Eight, Ten and Eleven that additional research methods may have been a useful accompaniment to the photos and provided images, in order to encourage discussion of those subjects that may not have been easily captured by the participants through the collection of images.

Beyond these issues, the following section attends to the issue of validity of using focus groups and photography alone.

[129] Empowerment, as referred to in Chapter Six, is an important factor with regards the ethics of research with young people. Cameras do not require the presence of researchers when photographs are taken (Young and Barrett, 2001) and this give young people a sense of power over the task since there are no spatial and temporal restrictions on their participation (Barker, 2003).

5.4. Are focus groups valid?

In presenting an evaluation of quantitative and qualitative methods, it is not the purpose of this section to argue that either approach is superior (although, as noted by Blaikie (2000), quantitative research has often been considered to be), but instead to recognise that quantitative and qualitative researchers establish and assess the quality of their work in different ways - reflective of the dissimilar assumptions that underlie each approach and the different methods used (as noted previously).

For quantitative researchers, 'reliability' and 'validity' are important criteria for evaluating their research (Bryman, 2004; Blaikie, 2000; Winter 2000). Reliability is concerned with the issue of whether the results of a given study are repeatable and the term is commonly used in relation to whether the measures devised for concepts in the social sciences are consistent between studies. Validity is concerned with the integrity of conclusions generated from research and there are three main types. 'Measurement validity' relates to the question of whether a measure that is devised for a concept actually reflects the concept that it is supposed to be denoting. 'Internal' validity relates to the question of how confident we can be that the independent variable (e.g. cost) is at least in part responsible for the variation that has been identified in the dependent variable (e.g. choice to use the bus). Finally, 'external' validity is concerned with the generalisability of research findings beyond the specific research context, explaining why quantitative researchers are particularly focused on generating representative samples (as discussed in Chapter Six).

The present thesis aims to *explore* the attitudes of young people towards transport modes and their willingness to tackle climate change, and therefore concentrates on eliciting detailed depth insights. Therefore statistical measurement, generalisability and repeatability are not major preoccupations of this research and concern about the reliability and 'internal' and 'external' validity of this research would appear inappropriate. Nevertheless, it cannot be said that evaluation criteria have no relevance in relation to such qualitative methods. In fact there is considerable debate amongst qualitative writers with respect to this issue - and from this three main positions can be identified. According to Bryman (2004),

> "…the differences between these three positions reflect divergences in the degree to which a realist position is broadly accepted or rejected." (Bryman, 2004)

Writers such as LeCompte and Goetz (1982), Kirk and Miller (1986) and Masson (1996) apply the ideas of reliability and validity with little (if any) adaptation. In this sense they position themselves as realists - which refers to the idea that social reality can be captured by qualitative researchers through their concepts and theories. Lincoln and Guba (Lincoln and Guba, 1985; Guba and Lincoln, 1994) reject this view. They argue (and therefore take the position) that reliability and validity presuppose that a single absolute account of social reality is feasible, but in reality there can be more than one and possibly several accounts. Accordingly, they propose 'trustworthiness' as an alternative criterion for assessing a qualitative study. Trustworthiness can be said to be made up of three criteria, each of which has an equivalent criterion in quantitative research.

First, Lincoln and Guba refer to 'credibility', which parallels internal validity. Due to their assumption that multiple accounts of social reality are possible, they consider it is the credibility of the researcher's account that determines acceptability to others. Credibility can be achieved by ensuring and proving that a study has been carried out following good-practice and via the 'triangulation' of qualitative methods. According to Blaikie (2000), the concept of triangulation was introduced into the social sciences by Webb et al. (1966, cited in Blaikie, 2000), due to their concern to overcome the,

> "…complacent dependence on single operational definitions of theoretical concepts, and to supplement the use of the interview or questionnaire with unobtrusive non-reactive measures 'that do not require the cooperation of the respondent and that do not themselves contaminate the response." (Blaikie, 2000)

In agreement, Denzin (1970; cited in Blaikie, 2000) argued that, assuming different research methods will reveal different aspect of empirical reality, sociologists must employ multiple methods in the analysis of the same empirical event. However, by assessing attitudes, the present study recognises that it will be investigating the multiple realities of individuals (as noted by Licoln and Guba above) in that their accounts of their social world are relative in time and space and to them alone.

Therefore, if multiple methods are used, each one will be measuring different realities in that each will be influenced by the different time and space in which it was carried out. It is for this reason that qualitative researchers are often unconcerned with triangulation (Blaikie, 2000), as is this thesis. However, it takes account of Blaikie's suggestion that it is important to use methods (singly or in combination/sequence) that reflect the ontological assumptions of the study – something that could not be achieved by attempting to meet the aims of this thesis (i.e. to understand the individual realities of young people with respect to their attitudes towards transport and their willingness to tackle climate change) using a quantitative survey based on pre-determined questions (which would restrict them to responding to a predetermined social reality), but is achieved through the use of picture prompts and photography in conjunction with 'semi-structured' focus groups[130], in that each allows exploration and the participants freedom to express their own reality.

Secondly, Guba and Lincoln refer to 'transferability', which parallels external validity. Whereas quantitative researchers tend to be concerned with how generalisable and representative their findings are (and in this sense are preoccupied with the breadth of their research), qualitative research is more concerned with 'thick description' (Geertz, 1973), reflective of the typically intensive and in-depth nature of such studies. Guba and Lincoln argue that such rich and detailed accounts provide others with a 'database' for making judgments about the *possible* transferability of findings to other milieu[131].

Thirdly, Guba and Lincoln refer to 'dependability', which parallels reliability. As such, they propose that researchers should adopt an 'auditing' approach and by doing so ensure that all phases of the research process (such as the selection of participants, transcripts, and data analysis decisions) are noted in detail and kept as records of the study. In doing so, they argue that peers can act as auditors both during the course of the research and at the conclusion of the study so as to establish how far proper procedures have been followed. In the context of this thesis, such a process has been carried out via consultation with the research supervisory team and will take place at the conclusion of the PhD via an examination (or 'viva'). However, it is held by this thesis that, although it is important that the study is dependable, it may be unrepeatable in that the social phenomena being study may have changed on a

[130] This particular type of focus group is discussed further in Chapter Six.
[131] In this sense, such accounts do not have to be transferable to be of use.

temporal scale and therefore may never be 'captured' in the same way again. This should not be seen as a weakness however.

Hammersley's (1992) position with regards evaluation criteria occupies a middle ground in terms of his acceptance of realism. As such, Hammersley claims that social phenomena can exist as part of an external reality, but he rejects the idea that it is possible to reproduce that reality for the audiences of social scientific endeavour. Instead, he argues that we can never be absolutely certain about the truth of any account because we have no completely incontrovertible way of gaining direct access to the reality on which it is based. He subsequently argues that the validity of claims about the truth must be judged on the basis of the adequacy of the evidence offered to support them.

In response to this, Bryman (2004) considers,

> "Most qualitative researchers nowadays probably operate around the midpoint on this realism axis, though without necessarily endorsing Hammersley's views. Typically, they treat their accounts as one of a number of possible representations rather than as definitive versions of social reality." (Bryman, 2004)

Bryman also suggests that most qualitative researchers "bolster" their research by utilising some of the strategies advocated by Lincoln and Guba, such as thick descriptions and triangulation (or a combination of methods) and it is this stance and approach to research that is reflected in methodology adopted by the present study. In this sense, the thesis does not ignore the criticisms levelled at qualitative research, but instead recognises them and utilises those steps suggested by Guba and Lincoln (Lincoln and Guba, 1985; Guba and Lincoln, 1994) in order to manage these issues.

Overall this chapter has established that qualitative methods, specifically the use of picture prompts and photography in conjunction with focus/discussion groups, are the most suitable method for meeting the aims of this thesis. With this in mind the following chapter presents an account of the implementation and efficacy of this methodology.

Chapter Six
Implementing and assessing the methodology

6.1. Introduction

This chapter describes and explains the detailed methodology adopted by this thesis. As such, it begins by discussing the need for a purposive sample chosen according to the aims of the present study, as well as guidance about the composition (with respect to age and gender), size (with respect to the number of participants in each group) and number of groups that should take place. Having established this, an account is given of how and where the participants were recruited.

Following this, attention turns to the use of photography in the study, the insights of a pilot study and those in relation to the practicalities of using this method in the full research. The chapter then highlights the importance of developing appropriate questions prior to and during the focus groups and in doing so details the development of the moderator guide utilised. Consideration is then given to various issues related to the running and moderating of focus groups, followed by an account of the ethical issues attended to by this thesis. The chapter concludes by discussing how the focus group data were analysed and the key methodological issues that should be held in mind when considering the research findings presented in Chapters Seven to Ten.

Overall, the following sections reflect upon the decisions made by, and the role of, the present author in the research process and the production of data. In this sense, they include an element of 'reflexivity'[132]. Emphasising such an approach with respect to 'good-practice' in qualitative research, Barker and Weller (2003) argue that,

> "Researchers must reflect upon their own position and roles and evaluate their research in its attempts to achieve meaningful participation, rather than to simply adopt a tokenistic view of what the researcher perceives to be appropriate method." (Barker and Weller, 2003)

[132] Defined by England (1994) as, "the self-critical sympathetic introspection and the self conscious analytical scrutiny of the self as research".

However, it is recognised that such reflexivity will not reveal the impact of the researcher upon the research process in its entirety and that this is something that may never be fully achieved (Macbeth, 2001).

6.2. Identifying and recruiting the sample

According to Blaikie (2000), there is no necessary connection between the methodological approach used (quantitative or qualitative) and the type of sample that should be recruited. However, according to Morgan (1998b), like most other qualitative methods, focus groups rely on purposive samples where the focus group participants are chosen according to the project's goals, which in the context of this thesis is to understand the attitudes of young people (before and just after the point of licence acquisition) towards transport, their willingness to tackle climate change and whether their willingness to tackle climate change acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour.

Unlike quantitative surveys which aim for representative insights (and where random sampling may be used[133]), the goal of focus groups is to gain depth-insights which therefore requires selecting a purposive sample that will generate the most productive discussions in the focus groups. At the same time, in order to reduce the chance of bias[134], there is a need to be careful and systematic in selecting the focus group participants, making sure that people who fit the purpose of the research are reached[135] (Morgan, 1998b). With this in mind, three age groups have already been identified – 11, 15 and 18 (as discussed in Chapter Four) and it was the aim of the present study to contact participants of these ages. However, a number of other factors were considered when identifying and recruiting such a sample:

[133] According to Blaikie (2000), "*Simple random sampling*… involves a selection process that gives every possible sample of a particular size the same chance of selection."
[134] Which, as noted in Chapter Five, is defined as, "Any influence that distorts the results of a research study. Bias may derive either from a conscious or unconscious tendency on the behalf of the researcher to collect data or interpret them in such a way as to produce erroneous conclusions that favour their own beliefs or commitments." (Bloor and Wood, 2006).
[135] Although it is recognised that it is virtually impossible to eliminate bias entirely. Instead, any bias should be identified, taken into account when designing the methodology and considered in the analysis of results, as done so by this thesis.

Firstly, in determining the composition of individual focus groups, Morgan (1998b) suggests that compatibility is key:

> "When the participants perceive each other as fundamentally similar, they can spend less time explaining themselves to each other and more time discussing the issues at hand[136]." (Morgan, 1998b)

Therefore Morgan (1998b) suggests bringing together groups of homogenous participants on the basis of age and/or gender. This, together with Vaughn et al.'s (1996) finding that groups containing both sexes often become distracted due to their discomfort and involvement with individuals of the opposite sex, meant that the groups recruited by the present study were divided by both age and gender. In addition, it has been suggested by Amos et al. (2004) that friendship groups (where interviewees know one another) help young people relax and encourage discussion[137]. At the same time, such groups would enable the exploration of peer relations within the groups. However, in the present study, the participants were not intentionally selected as friendship groups (with the exception of the 15 yr-old and 18 yr-old female groups in Wave 2), although they were selected from the same class (either in relation to their tutor group or subject class) or scout group and they were clearly familiar and relaxed with each other.

Secondly, it is important to consider group size. According to Tang and Davis (1995),

> "From a theoretical perspective, the number of participants that should be included in a group remains vague and uncertain." (Tang and Davis, 1995)

However, the authors argue that,

> "Above all, the size of a group should first be determined by the aims of the research study. If the study is an exploratory one, it is recommended that one should run more groups with a smaller size in a less structured manner, as the

[136] In contrast, Morgan (1998b) considers mixed groups may spend a good deal of time getting to know each other and building trust before they feel safe enough to share personal information – if they ever reach this level of comfort."
[137] Similarly, Kenyon (2004) suggests that, when young people are familiar with the other group participants, they are less intimidated than they would be with a group of strangers.

> prime object of exploratory studies is to obtain the maximum amount of information." (Tang and Davis, 1995)

In addition, Morgan (1998b) highlights that, with larger groups, the amount of time given to each participant is minimal - thus, smaller groups allow the research team to hear more from each participant and learn more about individuals' experiences or thoughts. Nevertheless, this is not to say that smaller groups are without disadvantages. It has long been known that smaller groups can lead to participants being too tense, passive, tactful and constrained (Slater, 1958). Although, it is also known that larger groups can be too aggressive, impulsive, competitive and inconsiderate (Slater, 1958).

Thus, with these factors (particularly the present thesis' emphasis on exploration) in mind, four to five participants were invited to take part in each group, although on four occasions, this number was reduced to three when it came to the group sessions[138]. Nonetheless, this particularly small group size did make for exceptionally intimate and focused discussions, providing rich and detailed information about each participant[139].

Thirdly, with respect to choosing the number of groups that should take place, Morgan (1998b) suggests that the crucial factor lies in the underlying diversity in what people have to say. As soon as the groups become repetitive, the researcher reaches what Morgan refers to as 'theoretical saturation' and there is little to be gained by carrying out further groups. As such, the average number of groups it takes to reach 'saturation' with respect to the same topic is between two and five. However, by dividing the participants into groups on the basis of age and gender, the present study also needed to ensure that there were enough groups for each division. Therefore, two groups for each age group and for each gender (12 in total) were recruited. This choice was also due to the time limitations of the study.

Fourthly, it was important to find a suitable, comfortable and recognisable setting where participants would already be familiar with each other, and one that would allow easy management of the group sessions. In addition, it was necessary to have relatively

[138] This is an important finding in itself. The experience of participants displaying such a lack of commitment has taught the present researcher, in the future, to recruit more participants at the outset in order to compensate for the drop-off rate.
[139] Although it is recognised that one-to-one interviews would also achieve this, this methodology is limited by the issues discussed previously.

easy access to the participants after the discussions took place in case there was a need to return to them. Also, Darbyshire et al. (2005) considers children are "generally comfortable and familiar with the process of discussing matters in groups" and therefore considers focus groups in schools a congruent and appropriate research approach to gauge children's views. Thus schools were chosen as the primary source of recruitment[140].

Fifthly, the present thesis attempted to recruit participants from a range of socio-demographic backgrounds in order to allow for variations in family income and geographic location - which in turn are part cause of variations in individuals' access to different transport modes (both physically and financially), as noted in Chapter Four. In this sense, socio-demographics can act as a control factor with respect to the travel choices available to individuals, as well as an influence on their attitudes towards transport modes. However the degree to which it was possible to recruit participants on this basis was limited by a number of issues:

1. Gaining the interest of schools was difficult. Having considered local school league tables, initial letters were sent to nearby schools varying in location and status[141] and these were followed up with phone-calls about the study. However, these schools either failed to reply to both forms of communication or rejected the chance to take part in the study on the grounds of time and their assumption that it was 'just another survey' - despite the attempts of the present author to explain the methods chosen. As a result, it was through personal contact with a number of teachers that the chosen schools were contacted; through an e-mail request to local scout and guide groups that the scout group was contacted; and through a conversation about my study that the groups at the hockey club were recruited. In this sense, recruitment was carried out in a way that could not be learnt by the researcher through guidance from the literature. In many ways it was through perseverance and novel ways of approaching the task that this part of the research process was achieved.

2. Once recruitment had taken place, information about where the participants lived was restricted (with the exception of those participants recruited from the hockey

[140] The discussion groups also took place at the schools and scout group, although those groups recruited at the hockey club took place in one of the participants' homes.
[141] I.e. they were a mixture of private and state schools.

club) due to the data-protection enforced by the schools and scout group, whereby all communication to their parents was through the teachers and scout leader. With this in mind, apart from the information the participants revealed in the course of the discussions (such as living near to a bus stop, or their parents owning a car), it was considered unethical to ask the participants about their living situation. At the same time, it was felt that asking them about their family income may cause distress if individuals felt uncomfortable discussing such details in front of the moderator and/or their peers.

3. It is recognised that even if it had have been possible to identify potential participants from a range of socio-demographic backgrounds, it would have been unethical to force these participants to take part. In this sense, by using self-selection (as explained below), the chance of achieving this is made increasingly difficult.

Although it is recognised that there is a lack of consistency with respect to recruitment with the above issues in mind, it is also recognised that even within different schools, whether they are in vastly different geographical locations (with regards the affluence of the area and/or transport facilities available to the students) or not, the socio-demographic backgrounds of the pupils, as well as their attitudes and behaviours towards transport, may show considerable variation. With this in mind, despite recruiting on the basis of providing depth insights rather than achieving generalisable results, the variation in sources of recruitment and the degree to which the findings are consistent across the groups by age, gender and the urban/rural location of the four schools, college and scout group (as will be seen in Chapters Seven to Ten), suggests that the findings may be considered generalisable on this basis. As such, relevant details of these sources of recruitment, as well as the schools/college attended by those recruited from the hockey club[142] are given in Table 5 (page 119)[143].

[142] With the exception of one participant in the 18 yr-old female group in Wave 2, the participants in both groups all attended the same school.
[143] Due to confidentiality, the names of each location cannot be given – thus they are referred to as Schools A – E, 'the hockey club', 'the scout group' and 'the college'.

Table 5: Characteristics of the schools/ scout groups attended by the participants

Source of recruitment		Characteristics of school/college/scout group
School A		Situated approx 11 miles NE of Bristol City Centre in a small town. A community comprehensive with a student-body of just over 1000 – both boys and girls aged 11-18 yrs. The catchment-area is made up of mainly small towns and villages. No school travel plan. School bus service.
School B		Situated in a suburb of Bristol, approx 2 miles from the city centre. A community comprehensive with a student-body of just over 1300 – both boys and girls aged 11-18 yrs. The catchment-area is suburban residential. No school travel plan. School bus service.
School C		Situated in a suburb of Bristol, approx 7 miles north of the city centre. A community primary school with a student body of 280 – both boys and girls aged 4–11 yrs. The catchment-area is suburban residential. No school travel plan. School bus service.
The scout group		Situated in a suburb of Bristol, approx 3.5 miles east of the city centre. Attendance – approx 25 boys aged 10-14 yrs, from surrounding suburban residential area.
The hockey club	School D	Situated in a suburb of Bristol, approx 7 miles north west of the city centre. A community comprehensive with a student-body of just over 1200 – both boys and girls aged 11-18 yrs. The catchment-area is suburban residential. No school travel plan. School bus service.
	The college	Situated in a suburb of Bristol, approx 6.5. miles north east of the city centre. Over 12,000 students from Bristol and South Gloucestershire. Bus service.

However, in reflecting on the research decisions made, it is recognised that the sample recruited is limited by various factors and therefore a number of issues cannot be analysed. For example, considering the importance of the influence of experience on the participants' attitudes (as introduced in Chapter Four), it would have been useful (had it been possible) to sample on the basis of car owning vs. non-car owning households, people living in areas with good vs. poor access to public transport or schools with/without travel plans. Nonetheless, as noted in Chapter Eleven, this is an issue that could be picked up in future research.

Similarly, when considering the key findings of the present study and implications of these, it should be remembered that the sample was recruited on a sub-regional level in that it was confined to Bristol and the surrounding villages. Therefore, although relatively universal issues such as peer pressure, the importance of image and identity are unlikely to have been influenced by this, issues such as the availability of public

transport and cycle facilities, as well as local transport issues and campaigns are. In turn, attitudes towards issues such as public transport provision are likely to differ from location to location.

6.3. Recruiting the participants

In order to select the participants, the teachers, scout leader and participants recruited from the hockey club were provided with a briefing sheet and introductory letter explaining what the study would entail[144] (examples of which can be found in Appendix B). As such, School A was unhappy at the length of time it would take for the study to be completed if the participants collected their own photos (for those groups that did undertake this task, three meetings took place over a period of two weeks), but happy for the present researcher to provide images – which would reduce the period of time to one meeting per group. It is important to note here however, that in contrast to the introductory letter, the focus groups lasted between 40 minutes and two hours (having gained the permission of the teachers, scout leaders and participants that this was acceptable), as highlighted in Table 6 (page 123). The remaining schools, scout groups and the participants recruited from the hockey club were happy to collect photos, thus the study was split into two waves. This also allowed the present researcher to investigate whether there were any variations in the findings elicited from those groups provided with images (Wave 1) compared to those who collected their own (Wave 2).

Having confirmed that they wished to continue with the project, the teachers and scout leader were asked to identify potential participants by age, provide them with a brief description of the project (including the need to obtain parental permission for those under 18 years (as discussed in detail in Section 6.6.2.) and to invite them to take part[145]. It was hoped that this self-selection process would reduce the chance of teachers choosing those members of the class they considered most suitable, thus

[144] Using guidance from Sutton et al. (2004).
[145] With respect to those participants recruited at schools A and B, the teachers chose to present the opportunity to those studying Citizenship and Geography. It was these particular classes (also mentioned in Chapter Four) that the teachers felt linked to the study. As such they were happy for the students to take time out of these lessons, despite the 15 and 18 year olds being in being in the midst of their G.C.S.E. and A-level courses.

introducing an element of bias in the selection process[146]. The teachers and scout leader were informed that the project required a maximum of 6 participants in each group, and, despite potentially needing to 'draw names out of a hat'[147], only 4 or 5 members of each class (per gender) expressed interest in taking part. It is recognised that the sample is therefore biased towards those who expressed an interest.

Once the participants were recruited, the dates for the discussions in Wave 1 (which all took place at School A) were agreed with the teacher and the participants were met on the day their discussion took place. However, prior to the discussions, the teachers were given parental information sheets and consent forms for those participants aged less than 18 years. Although all of the participants gained consent, a number of participants forgot their letters (despite the teacher reminding them on a regular basis) and were therefore unable to take part (in part explaining the inconsistency in the number of people taking part in the discussions as shown in Table 6). The 18 yr-old participants were asked for their own consent (as agreed with the school) on the day of the discussion, but in this case one of the participants from the 18 yr-old female group could not attend the discussion group due to illness. Due to the time limitations experienced by School A, it was felt that the discussion groups should continue despite not being able to speak to all of the participants initially recruited. As noted previously, future use of such methodologies would recruit a higher number of participants (6-7) to allow for such problems - by approaching as many teachers and classes (within the limits of the purposive sample defined) as needed to achieve this.

In Wave 2, consultation with the teachers, scout leader and participants led to the arrangement of three meeting dates with each group. In the initial meeting, the participants were given an information pack containing a letter explaining the study, a briefing sheet (examples of which are given in Appendix B), two cameras (the purpose of which are referred to below) and a smaller information pack for their parents. This pack contained an introductory letter (as given to the participants in Wave 1), briefing sheet (as received by the participants) and a parental information sheet and consent form for those participants under 18 (as given to the participants in Wave1). All of the participants, even those who did not take part in the discussion group, returned their

[146] However, is recognised that there will be an element of bias related to the self-selection process by which the participants accepted the invitation to participate. The reasons for the acceptance are unknown, and in hindsight, it would have been interesting to explore this further.
[147] Which, in turn, may have had ethical and moral implications by disappointing a number of young people.

forms. Those over 18 signed their own forms on the day of discussion (again as agreed with the school), although some returned their forms at the same time as their cameras.

The second meeting took place two weeks later in order to collect the cameras. In between these two meetings, a reminder letter was sent to the participants (as found in Appendix B). All of the cameras were collected successfully at these meetings, with the exception of two of the 15 yr-old males. As such, a further meeting was arranged for the following day, but only one of the participants successfully returned his camera. Nonetheless, the remaining participant asked if he could take part in the discussion group despite forgetting his camera (there was no time available to return to the school before the date of the discussion group session) and he was allowed to do so. The third meeting for each group took place a week later (in order to allow time for the photos to be developed and organised) and it was at this point the discussion groups took place. In two groups (the 11 yr-old male group and 18 yr-old female group) one participant did not take part due to illness and in two other groups (the 15 yr-old female group and the 18 yr-old male group) one participant in each had to leave early. Again, in future studies employing these methods, a higher number of participants would be recruited in the first instance.

Thus, with the above information in mind, the composition and timing of each focus group is shown in Table 6 (page 123).

6.4. Refining the use of photography

As explained in Chapter Five, and referred to above, Wave 2 of the focus groups incorporated the use of photography. In testing the suitability and practicality of using this method, a pilot study was undertaken with the research aims in mind. As such, three volunteers aged 11, 15 and 18 were asked to take photos related to ‘transport’ on one camera, and to ‘the environment’ on another. These photos were then used as prompts in one-to-one discussions. Unfortunately the discussion with the 11 year old did not take place, but a number of photos in relation to both subjects were elicited,

indicating that no problems were experienced with using the camera[148]. Photos in relation to both topics were also obtained from both the 15 and 18 yr-old participants and the discussions with these participants took place successfully.

Table 6: Focus groups - composition and timing

Date	Location of focus group	No. of participants	Wave	Composition	Group code	Length of discussion
26/01/06	School A	3	1	11 yr old males	11M(1)	42mins
02/02/06	School A	4	1	11 yr old females	11F(1)	48mins
03/02/06	School A	4	1	18 yr old males	18M(1)	1hr 9mins
07/02/06	School A	3	1	18 yr old females	18F(1)	53mins
09/02/06	School A	4	1	15 yr old females	15F(1)	1hr 6mins
23/02/06	School A	4	1	15 yr old males	15M(1)	48mins
27/03/06	Participant home	4	2	15 yr old females	15F(2)	1hr 9mins
11/04/06	Participant home	3	2	18 yr old females	18F(2)	2hrs 6mins
09/05/06	School B	5	2	18 yr old males	18M(2)	1hr 15mins
16/05/06	School B	5	2	15 yr old males	15M(2)	1hr 20mins
06/06/06	The Scout Group	3	2	11 yr old males	11M(2)	1hr 15mins
29/06/06	School C	5	2	11 yr old females	11F(2)	1hr 20mins

From these discussions it was found that the participants considered the topics stimulating and enjoyed the process of taking photos and having the chance to discuss them. However, on reviewing this study it was felt that the 'topics' in relation to which the participants were asked to collect photos were too broad, which left the discussion quite unfocused[149]. At the same, time it was felt that the participants should not be asked to consider the environment in relation to transport as part of this task, in order to establish whether they 'naturally' associate transport with this issue. As such, the topic used in the full study linked more closely to the aims of understanding attitudes towards transport modes, rather than the link between transport and climate change.

[148] Although it is recognised that without speaking to the 11 yr-old participant, this cannot be known conclusively.
[149] In addition, it was noted by the present author that a number of leading questions were asked (the importance of which is referred to in Section 6.4.), something that was addressed in the full study carried out.

The participants were therefore given two cameras and asked to collect around half a dozen photos in relation to "the car" on one camera" and "any other form of transport" on the other. They were also informed that they could draw pictures, print images from the internet or collect them from magazines. However, with the exception of two participants, only the cameras were used.

At the beginning of the Wave 2 focus groups, the participants were asked for their feedback on the photographic task. In response, the majority of participants claimed that they found the process simple and/or easy, although a small number of participants expressed disappointment that their photos did not come out as well as they had hoped, or that the subject they were trying to photograph could not be seen in the photo itself (Morrow (2001) points to similar problems). In addition, a small number of participants explained that they had difficulty using the camera and knowing how to take "close-up" photos. This is one limitation of asking people to use cameras in that they may not have had any previous experience of using them. In this sense, digital cameras, where the photos could be assessed at the time the picture is captured, may be more suitable - however, use of such cameras in the present study was financially impossible[150].

A number of participants also referred to a sense of embarrassment or an awareness of other people's reactions when taking photos, although in all cases the participants referred to this in humour and it did not appear to prevent them from taking the photos they wanted to take. Nonetheless, a number of participants indicated that they were unable to collect images in relation to all of their ideas, in part due to the scarcity of subjects of which they wanted to take photos (e.g. rare sports cars), and the time it took to retrieve their camera if they did see the subject of which they wanted to take a photo[151]. This was partly why the participants were told that they could use other types of images (in addition to photos) to capture their ideas and it is difficult to know why they did not use these. It is thought that, having started by using the camera, they simply forgot that they had the option to use other forms of images. Perhaps if the

[150] Using digital cameras may also prevent the problem of participants not being able to remember why they took the photos in that the focus group could take place immediately after they have collected them by looking at each on a computer/projection screen. With respect to the present study, a small number of participants had difficulty remembering why they had taken the photos they had initially, but having had time to consider them via their photo booklets (an example of which can be found in Appendix 2), the majority were reminded of the motivation/message behind each.

[151] For example, a car driving past at speed, making it impossible to capture.

present author had taken other examples to the initial briefing session with the participants in Wave 2 (such as those printed from the internet or leaflets in addition to the cameras), these examples may have been remembered and used more readily by the participants who struggled to take photos in relation to particular subjects.

Despite this, it was felt that this method was successful in engaging the participants in the research process and, as will be seen in Chapters Eight to Ten, the photos were effective as prompts in the discussion groups - as were the images supplied by the present author in Wave 1. These 'supplied' images (which can be found in Appendix C) were chosen following consultation with colleagues, on the basis that they linked with the questions being asked and would stimulate thinking. Yet, despite successfully achieving this, they did not appear to stimulate the same level of thinking and discussion achieved by allowing the participants to collect their own photos. It is thought that this may have occurred for two particular reasons. Firstly, the photos collected by the participants contain their own thoughts, therefore providing them with a set of pre-determined thoughts at the beginning of the discussion which allowed them to contribute to the discussion straight away. Secondly, the process of collecting the photos and returning them to the present author meant that the participants met both with each other and the moderator more than once (in contrast to those in Wave 1) – thus allowing them to become more familiar, comfortable and confident with the subject of the study, the research process, and the moderator before the discussion took place, as well as providing them with a sense of ownership over this part of the research.

6.5. The 'right' questions

6.5.1. Developing the questions

It is important to develop an effective set of questions for the discussions. As Morgan (1998a) suggests,

> "Focus groups work best when what interests the research team is equally interesting to the participants in the groups. In high-quality focus groups, the questions that you ask produce lively discussions that address exactly the topics you want to hear about." (Morgan, 1998a)

In developing such questions, Morgan (1998a) suggests a number of factors should be taken into account. Firstly, in relation to the level of structure applied to the focus groups, there is a need to establish whether the project goal is to answer a number of predetermined questions, or whether it is purely exploratory. According to Morgan, if the project goal is to answer predetermined questions, this calls for a more structured approach that keeps the discussion focused on the issues that need to be addressed. The strength of this approach is its ability to deliver a maximum amount of well-targeted information, but its weakness is its inability to learn about issues that are not included within the narrowly focused set of predetermined questions. If the goal is exploratory, this calls for a less structured approach that can discover the range of issues that need to be understood. Therefore, the moderator guide will typically include a number of open-ended questions that spark the group's curiosity about the overall topic. The advantage of this approach is its ability to discover new ideas and insights, but its disadvantage is that the groups can be quite erratic in terms of their productivity, making it difficult to make systematic comparisons across groups.

As explained in Chapter Four, the present study is aiming to meet a number of predetermined aims while at the same time *exploring* the attitudes of young people towards transport modes and their willingness to tackle climate change. As such, it was considered necessary to use what Morgan (1998a) refers to as 'moderately structured groups'. In doing so, a moderator guide was devised for the focus groups in Wave 1 (which can be found in Appendix C[152]) whereby the questions reminded the present author (when moderating) of the key issues the study wished to explore, and the order in which it wanted to do so, but the purpose of this guide was not to restrict the topics the participants wanted to discuss. A number of questions were simply considered (and written in the guide) as 'potential', and were only used if the discussion was lagging (i.e. the participants were not speaking) or if particularly important topics did not come up in the natural course of conversation.

These questions were also influenced by guidance from Krueger (1998b). As such, they were conversational in order to create and maintain an informal environment, open-ended so that the participants determined the direction of the response (for

[152] As can be seen in this document, a number of changes were made as the focus groups were carried out, reflecting the learning process experienced by the present author. In addition, it should also be said that, due to the nature of focus groups (i.e. you cannot predict what will be said), the way in which such questions were asked, and the exact order, were also subject to change.

example, "What do you think of the bus?") and the wording was direct, simple and one-dimensional. In this sense the questions were limited to a single idea so as not to confuse the meaning of each one. The pilot study (referred to above) also aided the wording of questions, with respect to removing those that were leading[153] and making them understandable to the participants (i.e. avoiding the use of complicated terminology[154]).

Overall, despite there being differences in the exact wording and order of the questions posed to each group, there was a sense of consistency across the study in the *topics* discussed (these being 'attitudes to transport modes', 'information about transport modes', 'concern about climate change', 'willingness to tackle climate change', 'information about climate change', and 'current/intended transport behaviour'). The participants were also asked to 'think back' and encouraged to talk about their experiences in relation to these issues, in order to assess whether their attitudes were based on experience (which links to importance of intra- or inter-attitudinal structure, as discussed in Chapter Four).

6.5.2. Employing the questions

In both waves the discussion groups began by introducing the moderator and assistant moderator (the importance of whom is discussed in Section 6.5), explaining what the group would entail and introducing the video and voice recorders[155]. The participants were also asked to read a consent form, and if they were happy to continue, to sign it. Following this an introductory 'task' and open-ended questions were used to,

[153] i.e. a question that contains the information or a specific answer the moderator is looking for, such as, "Do you find the car more relaxing and comfortable than the bus? Yes or no?". This is in comparison to non-leading questions such as, "Can you tell me about the experience of travelling by car?", followed by a similar question in relation to the bus.
[154] For example, instead of using the question, "How do you respond, physically and mentally, when cycling to school?", the same ideas could be explored using the question, "How do you feel when you cycle to school?"
[155] According to Kidd and Parshall (2000), "Audiotape is often easier for a transcriptionist to work with than videotape, but it leaves room for doubt about who said what and does not reproduce nonverbal behaviour that may be important. Videotape makes it easier to know who said what …if the discussion gets lively, several people may talk at once and obscure what each is saying." As such, both audio and visual recording equipment were used.

> "…provide participants with an opportunity to reflect on experiences and their connection with the overall topic. The questions foster conversation and interaction among the participants but are not critical to analysis." (Krueger, 1998b)

In Wave 1, this task consisted of participants spending some time looking at single images of the car and the bus and writing down the words that came to mind when doing so (the word sheet for this task can be found in Appendix C). They were also invited to talk amongst themselves during this part of the discussion. Similarly, the participants in Wave 2 were given back their photos in the form of a photo booklet (an example of which can be found in Appendix C), asked to spend some time looking at them (as well as to discuss them with other group members) and then to choose four images from each camera and to answer two simple questions about them, "What are you trying to show in this picture?" and "Why did you want to 'capture' these ideas or thoughts?" In all groups these tasks worked successfully and gave the participants the opportunity to relax and get used to the group environment

Following this, the groups in both waves moved onto the key questions[156], although this was achieved in different ways. As noted above, the discussions in Wave 1 were strongly influenced by the moderator guide, whereas the groups in Wave 2 were asked to direct the discussion by talking about their own images[157]. However, the issues discussed always returned back to those issues targeted in the moderator guide, most likely due to the fact that the topic titles on the cameras (i.e. "the car" and "any other form of transport") linked strongly with the questioning route and there were examples of both the car and the bus, as well as other forms of transport, in the images collected by the Wave 2 groups.

As can be seen in the moderator guide, the questions focus on the car and the bus in particular. This was in order to focus the discussion on the differences between the car and one example of a more environmentally friendly mode of motorised transport the young participants were likely to have used. However, the participants were invited to

[156] According to Krueger (1998b), "Key questions drive the study. Typically there are two to five questions in this category. These are usually the first questions to be developed by the research team and the ones that require the greatest attention in the analysis."
[157] In each group, a selection of photos from both cameras and from each participant were shown to the other participants, one at a time. The participant who took the photo was asked to say a little about what they wanted the photo to show, and why they wanted to show this. The other group members were then invited to comment on the issues raised.

comment further on other modes of transport if they were mentioned (these included the train, tram, walking and cycling).

The questions then consider attitudes towards climate change (in general and in relation to transport specifically), in order to investigate whether it is an issue the participants understand and are concerned about, and whether they link it to transport and the need to change their current and, more importantly, their intended travel behaviour as a result. Following this, the moderator guide moves towards asking the participants about their current and future intended travel behaviour – the last of which focuses on their willingness to change their behaviour in light of the impact of transport on climate change both voluntarily and via enforced changes. It was at this point that the idea of 'less necessary' use of the car was used (although not explicitly) in order to contextualise the idea of reducing use of the car. As such, the participants were asked how they would feel if they could still use their car, but they were limited by the number of miles they could drive (in the future), each week for example.

However, in a number of groups the natural line of discussion meant that behaviours were talked about at the same time as attitudes. Nonetheless, questions in relation to behaviour also allowed the present author to explore whether cognitive dissonance and/or impression management played a role in their responses[158]. This was achieved by using follow-up questions in response to any contradictions that were noted between the participants' attitudes and current/intended behaviours (although it is noted that these are expressed behaviours and may not be reflective of their true behaviour – thus highlighting the ambiguity of assessing cognitive dissonance in this context). Such a technique was used in recognition of the fact that, by asking the participants about behaviour after discussing issues in relation to transport and climate change, the participants may have managed their answers in reflection of the present moderator's focus on reducing use of the car in light of climate change. For example, they may have claimed that they use more environmentally modes more often than they actually do. The degree to which this was the case is discussed in Chapter Seven.

It is recognised here, and discussed further in Chapter Eleven, that by focusing on the participants' current/intended behaviour in this way, it is not possible to assess the

[158] Although the role of impression management was also explored in relation to the participants' attitudes in isolation.

degree to which actual travel behaviour change is achievable. The process of primary data collection concentrated on encouraging the participants to talk about their intention to move towards use of the car in the future, how their experiences of other modes of transport have shaped this intention, and how they imagine they would feel being limited in their use of the car once they can drive. It didn't ask whether they feel they would be *able* to change their behaviour in the ways they intended, or collect other evidence to assess whether this would be the case. It is therefore impossible to know whether the participants will have the actual capacity to travel in the ways they intend in the future (for example, will their parents be able to lend them their car? Will they have a good enough bus service to provide them with access to the destinations they will need?). However, as highlighted in Chapter Eleven, assessing the scope for actual behaviour change is recognised as an area for future research.

At the end of the discussion the participants were asked if there was anything else they would like to discuss and, depending on the response, the group was brought to a close by thanking the participants for their contribution and time.

6.6. Running and moderating the focus groups

In addition to those factors discussed above, there are a number of other factors that should be taken into account when running and moderating a focus group. Firstly, Krueger (1998c) refers to the importance of arranging a suitable room setting for the discussion. Such an environment should be free from distractions, comfortable and familiar to the participants. The discussion groups carried out by the present study were thus conducted in classrooms away from other students, in a separate room at the scout hut and in participants' own homes (with regards those participants recruited at the hockey club). On the whole this created a quiet and comfortable setting, but did not always guarantee that the groups were free from distraction. For example, in two of the groups (the 11 yr-old female group and the 18 yr-old male group in Wave 2) there were interruptions by other students entering the class room by accident, and both groups carried out in participants' (the 15 yr-old female and 18 yr-old female groups in Wave 2) homes were interrupted by the house phone ringing. In both cases however, the participants were not distracted and appeared less affected by the interruptions than the present author.

Krueger (1998c) also points to the importance of moderator body language, some particularly useful examples of which (as shown in Table 7, below) were 'rehearsed' by the present author in conversation with colleagues, friends and family prior to carrying out the discussions.

Table 7: Moderator body-language (source: Krueger, 1998c)

Gesture	**Interpretation**
Smiling and nodding	*A signal of encouragement given to a participation who has been hesitant to speak.*
Lifting an eyebrow	*An indication of interest, possibly surprise, or question - participant to continue speaking.*
Tilting head and lifting eyebrows	*Similar to above but slightly more noticeable.*
Pointing to a participant	*It's your turn to speak.*
Pointing to one person while holding up other hand to another participant	*Two people want to speak at once, so the moderator is the traffic cop. First one person talks, then the other.*
Leaning into the table	*I'm interested; tell me more.*

In addition, the present author also practiced what Krueger refers to as 'the 5-second pause',

> "The 5-seond pause is often used after a participant's comment or after a question by the moderator. This short pause often prompts additional points of view or amplifies the previously mentioned comment …The novice mistakes are speed and offering examples prematurely." (Krueger, 1998c)

Further, as highlighted by Litosseliti (2003), care was taken to reduce the chance of leading or manipulating the participants during the discussions. The participants were reassured that their opinions were important, that they could not say anything that might be considered wrong in any way (by the moderator) and if they did not want to respond to specific questions or comments made by other participants that was also acceptable (although they were encouraged to do so in case this lack of response was due to, for example, nerves or peer pressure). At the same time, the present author maintained a passive role, particularly when asked for confirmation that their beliefs

were 'correct' in relation to a given topic (such as the impact of transport on climate change). In response, the present author would give the typical response "I'm not sure, what do others think?" and in doing so moved the discussion on by passing the incentive to respond back to the participants. It was also important to make sure that particular participants did not dominate the discussion. This was dealt with by asking the participants to respect the views of others at the beginning of the discussion group (see the questioning route in Appendix C) and by firm moderating (such as raising a hand to the dominant individual and allowing others to contribute).

Thirdly, Krueger (1998c) refers to the importance of the assistant moderator, both during and after the discussion takes place. In the present study, the assistant moderator played an invaluable role in taking notes on body-language, operating the video and tape recorders, preparing the table and chairs and in post-discussion analysis. As soon as the group session ended, the present author and assistant moderator discussed their initial thoughts and impressions (with the exception of the 11 yr-old female group in Wave 2, where no assistant moderator was present) and this was recorded and transcribed. The results of this were used to help the analysis of the focus groups (in terms of the most important themes and ideas discussed by the participants, important quotes, unanticipated questions and the differences between groups) and used to develop the focus group methodology, both theoretically (such as slight changes in questioning, as discussed above) and practically (such as small changes to seating arrangements and the camera angle).

Fourthly, there was some concern prior to the discussion groups, that the video camera would cause a distraction to the participants. As such, the first group acted as a pilot in that if this did appear to be the case, the video-camera would have been removed for the following groups, which would then have relied solely on the MP3 sound recording. However, in all but one group there was no reaction to the camera. The only group that did respond to the presence of the camera was the 11 yr-old group in Wave 2. Interestingly this was the only session that was not attended by the assistant moderator. The girls from this group gestured to the camera during the discussion, and at the end of the session they all ran to it, waving, dancing and pulling faces. The present author questions whether this would have been the case if the assistant moderator had been in their usual position beside the camera. In this respect, the camera lost its 'human face', in that it stood alone. The girls may have been less

willing to pull faces and dance in front of the camera if they were also doing so in front of the assistant moderator!

Finally, in preparing for the group sessions, it was important to consider some of the unique elements of working with young people. It some cases adult researchers may fear working with the younger generation, believing them to live in a social and cultural world very different to their own. For example, Efken (2002) considers the unpredictability of teenage focus group participants and the importance of the moderator's ability to "get past purple hair, body piercings, strange facial expressions, and language you've never heard before" in order to carry out the discussion. However, it is subtleties such as these (in particular the language used by the young people involved) that need to be better understood by those developing transport policy and initiatives (with respect to transport and climate change) aimed at young people.

6.7. Ethical considerations

6.7.1. Power

There are various ethical considerations that should be adhered to when using focus groups and in research involving young people[159], the first of which relates to the issue of power. By utilising schools and the scout group, attention was paid to the power relations between the adults (i.e. the teachers and the scout leader) and the participants in that the adults *controlled* the research environment and it was important that this did not lead to the participants feeling that they had to take part in the research (Robinson and Kellet, 2004). Consequently, power was given back to the participants by briefing them about the project[160] (via their teachers), the process of informed consent explained below, and by allowing them to choose to participate in the research. Such issues were discussed with those recruiting the participants in the initial stages of the project.

The issue of power was also important within the groups. Bragg (2007) notes that an imbalance in power may be caused if the make-up of the group is not homogenous in

[159] Specifically in relation to young people, both the present author and the assistant moderator were successfully police-checked.
[160] In terms they could understand (Matthews et al., 1998).

that younger participants may feel intimidated by older ones, girls by boys or vice versa. This was partly the reason why single age and single sex groups were chosen. Further, Barker and Weller (2003) suggest that the use of methods based on children's preferred ways of communicating (such as social conversation and activity based, participatory learning) addresses the issue of power relations between the moderator and the young participants. This was achieved in the present thesis by using focus groups in conjunction with photography and picture prompts.

6.7.2. Consent

Edwards and Aldred (1999) explain that informed consent involves providing potential research subjects with clear and unambiguous information about the purpose and nature of the particular research study, in order that they can make choices about participation. Additionally, the issue of gaining parental consent was also considered important (Masson, 2004), despite a strong argument in the literature that young people should be allowed to give their own consent. For example, Edwards and Aldred (1999) suggest that,

> "…even at quite a young age, children can make informed decisions if given adequate information in terms they can understand." (Edwards and Aldred, 1999)

Similarly, a number of researchers in the field of childhood studies call attention to the fact that chronological age and competence are not the same thing (e.g. Alderson, 1995; Morrow and Richards, 1996). However, Morrow and Richards (1996) point out that children's competency to give consent to participate in a project in part depends on the context of that project and what they are consenting to do. As such, Edwards and Aldred believe that there can be no set of "universal prescriptive ethical rules" with regards allowing young people to give their own consent, only guidelines for thoughtful considerations within and about the specific context (such as those produced by Alderson, 1995).

With respect to the present thesis, having consulted with the teachers, the scout leader and a number of parents of those participants recruited at the hockey club, it was decided that those participants under the age of 18 should have to gain parental

consent to take part, particularly due to the fact that the discussion groups would be being video and audio-recorded. Thus, the parents of these participants were given a letter and consent form to consider and sign if they were happy to do so (as mentioned previously). Nevertheless, with the thoughts of Edwards and Aldred (1999) in mind, it was considered appropriate and important by this thesis to also allow the younger participants to give their own written consent to take part. Consequently, all of the participants were provided information about what the project entailed (in addition to that supplied by their teachers or scout leader) and a consent form (an example of which can be seen in Appendix B) for them to sign if they were happy to continue. The 18 yr-old participants gave their own consent only.

6.7.3. Confidentiality and safety

Via the consent form given to the parents and participants and verbal explanation to the teachers and scout leader, those involved in the study were informed about how the research aimed to tackle the issues of confidentiality and anonymity. As such, guidance provided by Morgan (1998a) was utilised in two main ways. Firstly, during the analysis of the discussion material, and in the transcripts (an example of which are provided in Appendix D), the participants are only identified using letters (A-E). Secondly, once the transcription was completed, only the present author has had access to the tapes that were made, and these tapes will be destroyed at the conclusion of this study.

In addition to this, Matthews et al. (1998) highlight that care should be taken to anticipate and prevent both any physical harm and/or psychological harm (such as distress, embarrassment, or loss of esteem) that may be caused via the methodology chosen. With physical safety in mind, during the first meeting with those involved in Wave 2 of the study, the present author pointed out that the participants should consider their safety when taking photos – particularly with respect to the dangers posed by road traffic and railways.

In the context of psychological safety, care was taken to assure the participants that they could choose not to provide any information (verbally or through the images they collected) and that any they did provide could not be ‘wrong’ in any way - all their contributions would be helpful. At the same time, all of the participants were asked to

be respectful of each other. This process continued throughout the discussions. For example, when participants were unsure of questions (including those on the photo sheet) or concerned about their hand-writing or a verbal response, they were reassured or given further information.

In addition to this, each participant, teacher and the scout leader were sent a letter of gratitude after their discussion group sessions, to thank them for their role in the study (an example of these letters can be found in Appendix B). The purpose of this was to let them know how their input to the study was progressing and to reaffirm the contribution they had made to the study. It also served as a method of confirming that their participation in the study had come to a close. At the same time, the two participants (in groups 11M(2) and 18F(2)) who could not attend the discussion groups, but had collected images, were sent their photo booklet and a letter thanking them for their efforts and inviting them to write comments about their photos if they wished (an example of this letter can be found in Appendix B). However, neither participant replied.

6.8. Analysis

Having established the most suitable method for the research and outlined how the methodology was employed, attention now turns to the methods used to analyse the data generated.

Quantitative surveys usually ask respondents to select a number on a scale that represents their point of view and this number becomes a symbol of reality and the basis of analysis. In contrast, qualitative focus groups usually ask open-ended questions that allow participants to select the manner in which they respond, while at the same time encouraging interaction among the respondents and allowing people to change their opinions. With this in mind, it is perhaps not surprising that the analysis of data produced by focus groups is somewhat challenging.

As explained by Krueger (1998d), the analysis of data produced by focus groups must be systematic in order to ensure that the findings will be as authentic as possible (linking again to the issue of dependability as discussed in Chapter Five). As such,

Krueger refers to three stages in the research process. Firstly, questions should be sequenced, as was achieved by the questioning route referred to above and utilised by the present study. Secondly, focus groups should be recorded (by video or audio-recorder) in order to allow the moderator to reconstruct the discussion - again this was achieved by the present study. Thirdly, the analysis of data should follow a logical process that is consistent across all data retrieved. This was achieved in the present study by using a process of data coding. The purpose of this coding was to keep in mind the aims of the study and retrieve data in light of these, while at the same time allowing themes to emerge and thus not restrict analysis and interpretation to those factors previously identified as potentially influential (and even explanatory) with respect to the attitudes of young people towards transport, their willingness to tackle climate change and degree to which their willingness to tackle climate change acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour.

Coding involved two stages, the first of which was the 'open-coding' stage, which Strauss and Corbin (1990) describe as,

> '…taking apart an observation, a sentence, a paragraph, and giving each discrete incident, idea, or event, a name, something that stands for or represents a phenomenon'. (Strauss and Corbin, 1990)

In the context of this thesis, the observations, sentences and paragraphs of interest include the comments made by the participants during the discussion groups, as well as observations in relation to their body language and what was written in their photo booklets. These 'data' were broken down into the most illuminating quotes, observations and comments; examined in more detail with respect to the aims of the research, compared across the groups as well as within the groups; before being conceptualised[161] and categorised[162]. Essentially, each line, sentence, paragraph etc. was read in search of the answer to the repeated questions "what is this about? What is being referenced here?"

[161] Blaikie (2000) describes 'concepts' as, "labels placed on discrete happenings, events, and other instances of phenomena." For example, as identified in Chapters Three and Four, concepts include 'self-efficacy' 'peer pressure' and 'climate change'.
[162] Categories are described by Blaikie (2000) as, "a more abstract notion under which concepts are grouped together". In the context of this thesis, examples of such categories include "factors influencing use of the car" or "methodological influences on the responses given".

The open-coding stage also involved a process of seeking out the properties of these concepts and categories. For example, in response to self-efficacy, questions were asked about its strength (as an influence on behaviour towards tackling climate change) and its importance to the participants. At the same time, attention was given to the degree to which such properties come from the data itself, from respondents, or from the mind of the present author in relation to the goals of the research. A number of other factors were also considered during this stage (utilising guidance provided by Krueger (1998d)):

- **The words used by the participants and the meanings of these words:** Words are used in a similar manner within a group, but the same word might be used quite differently in other groups.
- **The context of responses:** Participant responses are triggered by a stimulus – a question asked by the moderator or a comment from another participant. If comments are taken out of the context in which they occur, they will convey a different meaning. The context also depends not only on the discussion but also on the tone and intensity of the oral comment. It is also important to consider what is happening in the larger environment of the participants that might produce certain types of comments. Sometimes, a political, social, environmental, or personal event triggers a reaction that is not typical. It might be anger over the loss of a local bus service or frustration with another member of the group.
- **The internal consistency of the group members:** One distinctive feature of focus groups is that participants occasionally change their opinions during the discussion. The challenge to the researcher is to discover what is influencing the change.
- **Consideration of what was not said**: Ordinarily, this means that the topic not mentioned is less important because it did not come to mind or at least was not cited by a participant. However, this interpretation is risky because the meaning is unknown unless it is discussed with the participants. The moderator can handle this by using follow-up questions about the missing item.
- **Finding the big ideas**: Big ideas emerge from an accumulation of evidence – words used, body language, intensity of comments – rather than from isolated comments. It is important to look for big ideas not only in the responses to key questions but throughout the discussion.

(Source: Krueger, 1998a)

In addition to these, Hyden and Bulow (2003) point out that it is important to know who is saying what and "who is speaking *as* what". Do the participants talk and interact as members of a common group, or do they talk and interact as *individuals* who have simply been brought together as a social group. According to Hyden and Bulow, this has implications for understanding and evaluating the material especially if the study is about a widespread and commonly used concept (such as climate change).

Initially this coding was carried out via an extensive period (around twelve months during and after the discussion groups were carried out) of listening to, watching and transcribing the sound and video recordings of the discussion groups, reading and re-reading the transcripts and making notes on the page. The quotes were analysed on an individual, group, and series level, and by gender and age. They were then compared across the study as a whole. These notes were then transferred on to a computer using the qualitative data analysis package NVivo (QSR International, 2007) in order to aid organisation. This programme allowed the present author, at the click of a button, to view all of those quotes collected from across the group discussions in relation to each code and category (which also included reference to the properties of each of these quotes (as explained previously)). This made the process of 'axial coding', the second stage in the coding process (as introduced below) much easier (with respect to the practical issues of space and time) than if such quotes had been organised in hard copy alone – in total, the transcripts and additional profiles for each participant and group consisted of around 1200 pages.

Axial coding is used to establish relationships between sub-categories and categories and, thus, "put the data back together in a new way" (Blaikie, 2000). This is done by using a 'coding paradigm' which entails the researcher,

> "…thinking about possible causal conditions, contexts, intervening conditions, action/interaction strategies used to respond to a phenomenon in its context, and the possible consequences of action/interaction not occurring" (Blaikie, 2000).

It is at this point that the coding process differs from that used by Grounded Theorists. Whereas the latter theorists would build theory from the coding process with no other theory in mind, the present study used the concepts and potential links between these gathered through the literature reviewed in Chapters Three and Four to explore both

the applicability of these concepts (and links) to the data gathered, while also searching for new concepts and links.

In the first instance, the coded concepts and categories were printed onto paper and by analysing these together with the transcripts, the present author took several large sheets of paper, wrote headings on each (related to the aims of the study as well as different categories) and drew spider-charts under each heading using the concepts (and quotes from which these were developed) and links between them devised from the open-coding process. Using these, the raw transcripts and the profiles for each participant and group as a framework, it was possible to build a social scientific account of the attitudes of young people towards transport modes and the link between transport and climate change - as presented in Chapters Eight to Ten.

6.9. Key methodological issues

Before discussing the findings elicited by the present study, it is considered necessary to note a number of factors that will have impacted on them, with respect to the participants' response to the methodology used.

6.9.1. Participant-anxiety

Group 11M(1) was the first group undertaken and also the group in which the discussion was most difficult to initiate and the participants remained most quiet, although that is not to say that a useful discussion did not take place. However, on reflecting on the study as whole, it became clear that the participants expressed a greater degree of anxiety at the beginning of the discussion than the other groups (where the majority of participants expressed very little or no anxiety) most likely due to the nervousness felt by the present author in carrying out the first focus group. Nonetheless, by the end of this session and throughout the remaining groups, both the (majority of) participants and the present researcher were relaxed in carrying out the discussions and these produced lively debate and depth findings.

Despite this, it should be noted that three participants (one in each of the groups 11M(1), 15M(1), and 15M(2)) were particularly anxious and thus virtually silent throughout their discussions regardless of the present author's best efforts to include them. This may have been due to a lack of interest in the issues being discussed, but by the body language expressed (being hunched over the table, refusing to make eye-contact with the moderator), it was concluded that confidence in speaking in the research environment (i.e. in front of a group of peers, a moderator, co-moderator and camera) was the main factor. This would appear to be the case with regards the participant in group 15M(2) in particular, who successfully took photos and filled in (in detail) his photo booklet during the introductory task (which would suggest that he was interested in the subject) but once the discussion began he appeared unable to speak.

6.9.2. Concern about causing offence

One member of 18M(2) (referred to as participant A) illustrated a sense of concern with regards offending the moderator through what was said by other group members, as well as his own comments. For example, in relation to moped drivers, one of the other participants commented,

> - I think they've like…got a bit of their brain missing.
> *(Group 18M(2) participant)*

Participant A laughed but looked very uncomfortable and watched for the moderator's reaction. Similarly, when one of the participants commented on his experiences in relation to travelling by bus, he stated that he dislikes sitting next to people who do not speak the same language as him. In response, participant A again looked uncomfortable, rolled his eyes at the other participant, turned to the moderator and replied,

> - That doesn't really bother me at all, that would be fine.
> *(Group 18M(2) participant)*

In both cases the present author did not comment on this, recognising that it is an open discussion and appearing judgemental would not encourage the participants to speak

freely. However, it is important that such a response is recognised in the same way as impression management or cognitive dissonance, in that it cannot be assumed that this participant was speaking entirely freely due to his concern about causing offence.

6.9.3. Bullying

Although focus groups were chosen in part due the present author's interest in investigating the influence of peer pressure on the findings elicited, during a small number of groups there were incidents of bullying. For example, during the discussion with group 11F(2), three participants had a tendency to 'pick on' the fourth participant (referred to as Participant C) with respect to the comments she made and the way in which she said them. As such, the present author considered it important to recognise this issue, defend the participant (by asking the other participants to let her finish speaking or to show her the same respect that she showed them) and ensure she remained included in the discussion - but without drawing too much attention to this issue in order to prevent the participant feeling uncomfortable. In addition, it may have been the case that the participant was not as affected by the comments as the present author felt she was, particularly considering she appeared quite confident in retaliating:

- …you see these people, like models, that are really slim and you want to be like them. *(Participant A)*
- yeah and like you try an accent like them. *(Participant B)*
- I don't care about that. *(Participant C)*
- (Looking at the moderator) She doesn't care what she looks like anyway so…*(Participant A)*
- I do! *(smiles, but puts her hands on her hips)*. *(Participant C)*
- Shut up! I'm trying to talk! *(Participant D)*
- Oh, well no one noticed! *(All of the participants laugh) (Participant C)*

(Group 11F(2) participants)

A similar situation was experienced during the discussion with group 15M(1) where again, three of the participants picked on the fourth participant, however it is important to note that this participant did laugh along with the comments made, even though the present author felt uncomfortable. In both cases it may well have been that the

moderator was over-sensitive with regards the comments being made, perhaps forgetting what harmless childhood banter can sound like. At no point did either participant become distressed, although it is concluded that such concerns should not be forgotten during such discussions with young (or old) participants in that feelings of distress in relation to bullying are not always made visible.

6.9.4. Reassessment of opinion

Illustrating the advantages of focus groups, during several of the discussions, participants showed signs of reassessing their opinions as a result of the interaction between the group members (i.e. the opportunity to listen to and contemplate the other participants' comments) and the chance to discuss issues that they may previously not have had the opportunity to do so. For example, early on in the discussion with group 11F(2), two of the participants agreed that they enjoy using the car because they believe it saves them from walking. However, as the discussion turned to the importance of exercise, one of the participants talked about her love of sport and thus reassessed her stated attitude towards the car, commenting that she prefers to walk and cycle instead as it provides her with the opportunity to exercise.

Another example was seen during the discussion with group 18M(2). When the participants were asked whether they feel there is anything they can do to reduce the impact of the car on climate change, one participant pointed to his belief that alternative fuels are not a viable solution. However, another member of this group appeared to influence the former's opinion by providing him with new information:

- If they used something like bio-diesel, you could just…instead of using diesel you use bio-diesel. *(Participant A)*
- Yeah but you can't use bio-diesel coz where will all the rubbish cars go? There's going to be millions of cars that you're going to want to change. *(Participant B)*
- No you don't change them, that's the thing I'm saying, you just use bio-diesel instead of diesel. *(Participant A)*
- But some cars don't run on diesel. *(Participant B)*
- Yeah but you can use it, petrol cars can use it as well. *(Participant A)*

- Oh…OK I didn't know that… Cool, I guess they could then. *(Participant B) (Group 18M(2) participants)*

In addition, the members of group 18F(2) claimed that their discussion had influenced their opinion of the issues talked about in general:

- I kind of feel a bit bad now, after *(starts smiling)*, well not after, not because of this, but from discussing it, you know. I really want to walk more and cycle more, I want to do my bit more than anything else. And, you know, it is um, I don't think I've abused transport, or used a car too much. It is a necessity in life now, you can't do without it, but now I kind of want to do more…I'm thinking about how everything is in my life that's all. You've changed our lives! *(laughs).*

- I think it depends on quite a lot of things like coz, well I passed in January and it was like woo, I've passed! So I did drive, well *(little laugh),* nearly everywhere and I went and picked people up because like it was fun. But yeah, after talking like this I will walk a lot more. Coz I do sound really bad how much I drive.

(Group 18F(2) participants)

6.10. Conclusion

Overall it can be said that this chapter has highlighted the importance of implementing the methodology chosen with meticulous attention to detail – including that in relation to providing an enjoyable, comfortable, safe and engaging research environment for the participants. As such, it is held here that the study was, in the main, successful in doing so and, as will be seen in Chapters Seven to Eleven, also successful with respect to meeting the aims of thesis. However, this chapter has also recognised a number of limitations to the methodology used – including the biases involved in recruiting the participant and the study's limited access to socio-demographic data regarding the participants. Thus, with these factors, and the issues associated with analysis in particular in mind, this thesis now turns to an account of the research findings.

Chapter Seven
Introduction to the analysis of findings

7.1. Structure of the analysis

In better understanding why young people intend to move away from using more environmentally friendly modes of transport towards use of the car after the point of licence acquisition, this thesis explores the attitudes of young people towards transport, their willingness to tackle climate change and whether their willingness to tackle change acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour (a number of sub-aims were also outlined in Chapter Four). With this in mind, Section 7.3 of this chapter and the following three chapters explore the findings of the present study.

It was identified in Chapters Three and Four that information and signals (which can come from experience and/or outside information and/or inferred) influence values (and vice versa) and together these factors influence the attitudes and beliefs of young people towards transport, as well as their willingness to tackle climate change. These factors then influence travel behaviour intention and in turn travel behaviour. This and the following chapters are structured with these links in mind – beginning with an outline of the stated current and intended travel behaviour of the participants in order to contextualise their comments relating to their values, attitudes and beliefs.

Following this, Chapter Eight discusses the sources from which the participants gain information and signals in relation to their attitudes, beliefs and current/intended behaviours towards transport and climate change. In doing so, the chapter explores how the participants interpret this information, whether they receive mixed messages as a result and whether specific messages and sources of information and signals are listened/responded to in particular. Attention is also given to the extent the findings vary by age and gender.

Following this, Chapter Nine presents findings in relation to the participants' attitudes and beliefs towards transport modes, part-formed on the basis of the sources of, and

information and signals the participants are influenced by (as previously discussed in Chapter Eight). As such, attention is given to the influence of behavioural beliefs, social norms, self-identity, role-identity and image, perceived behavioural control beliefs and modelled behaviour. The findings are discussed using these concepts as headings due to the process of analysis which, as discussed in Chapter Six, involved a system of grouping quotes under these same concepts. The degree to which these factors varied according to age and gender is also discussed.

Chapter Ten then explores those factors influencing the participants' willingness to tackle climate change (a specific personal moral norm). In doing so, the chapter begins by exploring their willingness to tackle climate change, including their understanding of climate change, their confidence and interest in discussing this issue, their need for further information, their concern about climate change, their awareness of the consequences of their behaviour with regards climate change and ascription of responsibility for these consequences, and their self-efficacy with regards their ability to tackle this issue. With these in mind, the chapter then gives an account of the participants' willingness to tackle climate change. Attention is therefore given to the ways in which they are currently attempting to tackle climate change (in general and in relation to the link between this and travel behaviour), as well as their intended willingness to do so through both voluntary and enforced travel behaviour change.

The findings highlighted by each of these chapters will be added to the construction of a research framework. The purpose of this framework is not to represent the findings as a conclusion to the study and therefore a guide to policy in light of it, but instead to illustrate the wide-ranging and complex findings of this study diagrammatically. In this sense it acts as a guide or map to the findings – being of particular to the discussion of these findings and their implications (as presented in Chapter Eleven).

7.2. Key issues

There are a number of key issues that should be taken into consideration when considering the material presented in this chapter, and chapters Eight to Ten. Firstly, as noted in Chapter Six, it should be remembered that the sample was recruited on a sub-regional level in that it was confined to Bristol and the surrounding villages. Thus,

a number of findings (such as the availability of public transport and cycle facilities, and local information campaigns) are likely to have been influenced by this factor.

Secondly, the quotes used to illustrate the attitudes revealed by the participants favour those based on experience (although this does not mean that those based on conjecture are ignored) and therefore those with an intra-attitudinal structure – which, as discussed in Chapter Four, are particularly difficult to change. It should also be noted at the outset that the car and the bus were discussed in particular by the participants, reflecting the route of the moderator guide developed for the discussions, (and picture-prompts used in Wave 1) as well as the participants' seemingly greater experience of using these modes (and willingness to self-prompt with regards these modes in the discussion in Wave 2 in particular) in comparison to the train and cycling. Although they also referred to their experience of walking, they were less enthusiastic about discussing this subject.

Further to this, the chapters do not explicitly discriminate between the age and gender of the participants with respect to the majority of comments made and issues raised by the participants (although there were differences in phrasing and wording between participants across the study), in that the topics discussed did not illustrate a development in thinking or attitude that may relate to an increase in age (the implications of this are discussed in Chapter Eleven). However, there were exceptions with respect to the participants understanding of climate change, their response to car-marketing adverts, their ability to control the car environment and therefore their level of comfort in this respect.

It is also recognised that the findings presented cannot account for all possible sources of information and signals influencing the participants (and in turn the attitudes and beliefs held by them) with respect to transport and climate change and the link between these two factors. Instead they account for all those identified and discussed by the participants *in this study*, via moderator prompting (by way of the moderator guide in both Waves and images used in Wave 1) or prompting by the participants themselves (including the participants own images in Wave 2).

At the same time, as noted in Chapter Three, it is recognised that the level, type and sources of information and signals from which the sample may gain, or have gained, information in this context are likely to have changed in the time period between data

collection and the completion of this thesis (and beyond). It is also recognised that this is a factor that cannot be controlled. The conclusions made are thus done so with this issue (and those discussed above) in mind.

7.3 Stated transport behaviour

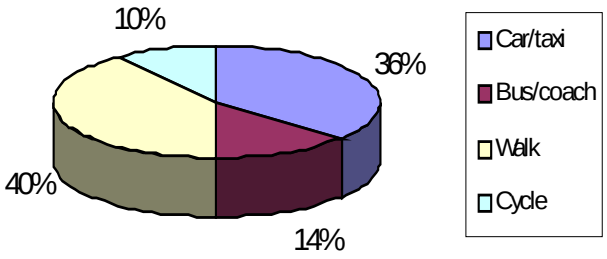
Before presenting the findings in relation to the participants' stated transport behaviour it is important to consider the degree to which it is felt that their comments are 'valid'. In Chapter Six it was noted that questions in relation to the participants' current and intended travel behaviour followed those regarding the link between transport and climate change and that the participants may have 'managed' their responses with what they believed to be the concerns of the present moderator in mind. In this sense, despite great effort by the moderator not to lead the participants, they may have attempted to claim their transport behaviour was more environmentally friendly that it actually is (or they intend it to be in the future) in order to 'look good' in front of the moderator and their peers.

However, the present moderator found the participants to be refreshingly honest and seemingly unaffected by the need to manage their answers in relation to their behaviour, in that (as illustrated in Chapter Ten) a large number of the participants explained that their transport decisions are not affected by the issue of climate change, even if their current travel behaviour (such as a reliance on walking and cycling in particular) can be considered 'environmentally friendly'. This was confirmed by looking at the participants' comments in relation to both their attitudes and behaviour on an individual level.

Tables 8 (page 150) and 9 (page 152) and Figures 10 (page 149) and 11 (page 151) illustrate the quantification of the participants' stated transport behaviour – the only part of this study that it is possible to do so. Each participant was asked to state the mode(s) of transport they used for the journey to school and the answers to this question are illustrated in Table 8. Table 9 accounts for their stated transport behaviours in all contexts, as referred to by the participants during the remainder of the discussions.

Although the sample number is small (and thus the percentages are somewhat misleading) and it must be remembered that 6 of the participants (2.7%) travelled to school by more than one mode (although not on the same trip) it can be seen in Figure 10 (below) that across all age groups the majority of travel to school is by walking (40%) or by car (36%). The participants use the bus and cycling to a lesser degree - the former being used by 14% of participants and the latter by 10%. With respect to walking, these results are not dissimilar to those discussed in Chapter Four, where it was noted that DfT (2005; 2006a) and DHC (2003) found that 44% and 37% of 11-16 yr-olds walk to school (respectively).

Figure 10: Stated travel to school by mode



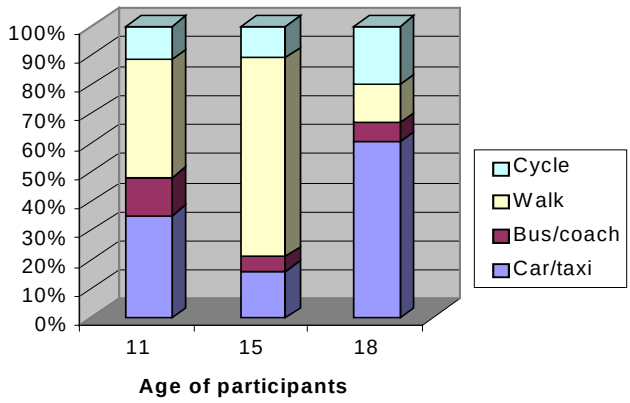
However, with regards the percentage of participants who stated that they travel to school by car, the result is significantly higher than that reported by DfT and DHC, who found that 22% and 16% of 11-16 yr-olds travel to school by car (respectively). One explanation for this is that, unlike the present study, the research carried out by DfT (2005; 2006a) and DHC (2003), did not include young people aged 17-18 - the age at which young people gain the opportunity to learn to drive. Reflective of this, Figure 11 (page 151) illustrates that it is those participants aged 18 that make up the largest proportion of participants who travel to school by car, and as can be seen in Table 8 (page 150), 50% of these participants (6 out of 12) drive themselves to school.

Table 8: Stated transport to school by mode, age and gender

	Car/taxi	Bus/coach	Walk	Cycle
11F(1)				
11M (1)				
11F(2)				
11M (2)				
15F(1)				
15M(1)				
15F (2)				
15M(2)				
18F (1)				
	Driver			
	Driver			
18M(1)				
	Driver			
	Driver			
18F (2)	Driver			
	Driver			
18M(2)				

Table 9 (page 152) acts as an illustration of *all* modes of transport referred to by the participants during the study. As such, it serves not as a precise account of their transport behaviour, but a glimpse at the range of modes they use, and the dominance of the car in the discussions. It is important to note that, with the exception of the car (during the discussions in Wave 1 and 2) and the bus (during the discussions in Wave 1), not all modes of transport were discussed within each group during the natural course of conversation. Therefore, it may be that the participants have used other modes of transport, but did not refer to them during their group discussion. It is also important to note that the vast majority of participants who stated that they have used the tram have only done so once and that the majority of participants who referred to the train have only used the train once, or use it rarely or occasionally. At the same time, it is highly likely that the participants (with the exception of those with physical disabilities – which included two of the participants in Wave 1) have all walked for some part of a journey, but did not refer to this in the discussion.

Figure 11: Stated mode of transport to school by age



These findings reiterate those referred to in Chapter Four, in that they illustrate the dominance of the car in the current and intended travel behaviour of young people, particularly once they learn to drive. In addition, and of central importance to this thesis, all of the participants revealed that they either intend to continue driving or to learn to drive in the future (mirroring those findings reported by DHC (2003), Storey and Brannen (2000) and Turner and Pilling (1999)). The only other intended behaviours discussed were those in relation to the train, but with a limited number of participants (five in total). Thus, with these findings in mind, the following chapters explore why the participants, in general, intend to move away from using more environmentally friendly modes of transport towards use of the car at the point of licence acquisition.

Table 9: Stated use of other transport modes

	Car/taxi	Bus/ coach	Walk	Cycle	Train	Tram
11F(1)					*	*
					*	*
					*	*
					*	*
11M (1)					*	*
					*	*
					*	*
11F(2)					*	*
					*	*
					*	*
					*	*
11M (2)					*	*
					*	*
					*	*
15F(1)						
15M(1)						
15F (2)						
15M(2)						
18F (1)						
	Driver					
	Driver					
18M(1)						
	Driver					
	Driver					
18F (2)	Driver					
	Driver					
18M(2)						

* This mode of transport was not discussed

Chapter Eight
Sources of information and signals

8.1. Introduction

This chapter presents a discussion of the sources of information and signals the participants referred to in relation to their understanding of, and attitudes towards, transport and climate change. It begins by outlining some specific limitations of the study in relation to the particular findings presented in this chapter. It then explores each source of information and signals, drawing out comparisons across different modes of transport under each.

8.2. Limitations

In order to stimulate discussion with regards the sources of information and signals the participants are influenced by in relation to transport and climate change, during the discussions in Wave 1 the participants were first presented with a range of car-images from films and adverts and asked for their thoughts about them, including whether they could recall the car and/or the bus being represented on television. In Wave 2, although the participants were not presented with these images, the subject of car-marketing and advertising was considered in every group. As such, the source of information most referred to with respect to the car, across the study as a whole, was the media.

However, this finding is likely to have been influenced by the fact that the images used as prompts only related to those that are media-based. Perhaps if other images had been used (as well as verbal prompting) in relation to other potential sources, they may have been discussed in more detail. However, it should be said that identifying representative images for the information and signals received from peers, family and school was considered particularly difficult. Further, although a number of different sources of information and signals were discussed in relation to each mode of transport, the degree to which the participants referred to the information they have

received about modes other than the car and the bus was somewhat limited[163]. Again it is recognised that this may relate to the lack of visual images given to the participants in relation to modes other than the car and bus (in both waves), as well as the greater degree of time that was spent discussing the car and the bus in the group sessions, in comparison to the train and cycling in particular.

Nonetheless it can be said that, despite these limitations, this part of the discussions provided depth insights into the sources of information and signals influencing the participants' understanding of transport and climate change and their attitudes and current/intended behaviours towards the same. These findings are discussed below.

8.3. The mass media

8.3.1. Television adverts

It was first found that the vast majority of participants were able to recall car-adverts in response to verbal prompting, self prompting, and the images used in Wave 1. However, it was also found that a number of participants believe car-marketing adverts are 'unrealistic' with regard the way in which they depict the car. For example, one member of group 11F(1), when asked whether she considers images such as 2.1-2.3 realistic, simply replied "they're adverts" and shrugged her shoulders. A group 18F(1) revealed similar beliefs, but in more detail:

> - …adverts for cars, they're always like speeding along the road and it's completely clear…and they can do whatever they want. They've got freedom but it's not really like that.
> *(Group 18F(1) participant)*

It is perhaps surprising that such scepticism is displayed at age 11, but on returning to the literature, it is clear that young people (of the age group considered in this study) have already been found to express scepticism in this context. Powell (2001; cited in Livingstone and Helsper, 2004) reports that voluntary recognition and discussion of the

[163] In this sense, although findings were elicited in relation to each source of information and signals, less was obtained about the information and signal sources relevant to each mode of transport.

underlying persuasive motives of advertising begins to appear around the age of 12. Beyond this, into teenage years, Livingston and Helsper (2004) found that young people are,

> "… often highly sceptical of advertising, more selective in their attention to advertising, and more distrustful of the claims made in advertisements (Boush, 2001; Childwise Monitor, 2003; van Evra, 1998; cited in Livingston and Heloper, 2004)." (Livingston and Helsper, 2004)

Reflective of this, the participants in group 18M(1) also referred to their beliefs that car-marketing does not portray the reality of the car, but at the same time referred to the importance of television marketing in developing a car brand:

> - …adverts are kind of a way to bring back a good image. Like Volvos used to be all boxy didn't they? But now they've got a new image.
> *(Group 18M(1) participant)*

By doing so, it appears that they recognise the *role* of this marketing, despite also believing it to be based on an unrealistic image of the car. Conversely, the participants in group 15F(1) referred to the adverts in images 4.1 - 4.4 as "pointless" and questioned whether they "really advertise the car?". It remains of note however that these participants were still able to refer to specific examples of car-adverts, thus illustrating the power of this form of media.

It was also found that a number of participants believed that it is the advert (as, for example, a piece of music or short film) they are attracted to, rather than the car being advertised:

> - **Do you like car ads? Are there any ones you can think of?**
> - Yes, yes. Oh I've got a whole list of them in my head, I could go on for hours *(he grins and hugs himself)***.** I like the one, the choir does the Honda sound, you know and it goes hmmmm hmmm.
> - Yeah but the problem is that no-one actually buys the car after the advert.
> - Yeah they just like the advert.
> *(Group 11M(2) participants)*

- **What about the dancing car?**
- Yeah that's a good one.
- Yeah I like the music *(starts dancing)*…but I don't like the car because it's not a sports car, a Landrover or a limousine.

(Group 11F(2) participants)

A possible explanation for this ability to recall (and some to be entertained by) car-adverts, but lack of interest in the car as a consumer product could be the participants' age or 'life-stage' in that they are currently not in a financial position to buy their own car. This was noted by a small number of participants themselves. For example, despite being able to drive, a group 18M(1) participant suggested that young people are not motivated to buy a car on viewing car adverts because they are mainly aimed at people "older" than him (i.e. those people financially able to act on such information). Similarly, a member of group 11F(2) explained that car-adverts have no impact on her because she is not at "that age where they would."

It is important to remember however, that the messages retained by an individual with respect to advertising may not be acted upon for some time. The participants may claim that they do not consider the car a consumer product from the messages they have received from viewing car-adverts at the age they are now, but they may recall these messages (such as their favourite car, or the car they associate with their favourite advert) when they do come to buy a car in the future, even if they are not aware that they are retaining this information at the time – an issue highlighted by Ehrenberg et al. (2002):

> "Because of the elapsed time between exposure and behavior, advertising has to work through people's memory. The gap may be seconds for an in-store display, two months or more for an instant coffee, or years for car or insurance campaigns. It requires long-term memory. …Once a message or image is placed in our long-term memory, it seems virtually never to be forgotten (e.g., Hunter, 1964; Franzen and Bouwman, 2001, cited in Ehrenberg et al., 2002). Formal recognition tests and general experience have long confirmed this." (Ehrenberg et al. (2002)

In addition to these findings, a number of female participants suggested that gender is an issue relating to the effectiveness of car advertising. Participants in group 18F(1)

referred to their belief that the impact of car-marketing is of more significance to men, which one member of this group attributes to the need for men to use cars "to show off". In addition, the participants in group 15F(1) agreed that the car advert images seen in images 4.1 – 4.4,

> - …all look like they're for boys basically.
> *(Group 15F(1) participant)*

It was noted in Chapter Four that the variations in the participants' attitudes and behaviours towards transport modes and willingness to tackle climate change may be part explained (via a consideration of the findings overall)) by gender and age/life-stage. An understanding of such variations is considered important with regards developing information and transport initiatives aimed at each age and gender (in light of influence young people away from an intention to drive towards an intention to use more environmentally friendly modes). However, considering the findings presented above, it is put forward that the participants' own (and therefore 'internalised') beliefs about the importance of gender and life-stage are just as important in this context.

In addition to these findings, it was found that only two participants referred to television adverts as a source of information in relation to the importance of climate change. However, they did consider these adverts particularly powerful:

> - There's been quite a good advert…I saw an advert on TV and it was…it was something like, you know, "just because you can't see it doesn't mean it's not there", and then they tried to show all the fumes coming out in, kind of, different colours. And then it was something like "Act Now". *(Participant B)*
> - Oh yeah I saw that. Yeah I saw it today actually…it's really good. *(Participant B)*
> - Yeah I saw it a few weeks ago and it, you know, it does open your eyes to everything that's out there coz you can't see all the problems, because you know, it's invisible…well pretty much. Um, but that really showed you it. It kind of showed not just car traffic but um…factories…and the pollution that's caused by factories and aeroplanes. *(Participant A)*
> - Yeah, totally. It definitely made me stop and think. *(Participant B)*
> *(Group 18F(2) participants)*

Considering the majority of participants were asked if they have received information about climate change from television adverts, but these were the only comments in response[164], this would suggest that such advertising does not act as an effective source of information for the participants in this context (although this situation may well have changed since this discussion was undertaken as climate change continues to grow in importance commercially (Jones and Levy, 2007)). Nonetheless a number of participants (in groups 15F(1), 15M(1) and 15M(2)) referred to television adverts encouraging them to save energy (an issue linked to tackling climate change via the emission of CO_2 via energy production) by switching off unneeded lights and turning televisions off standby when not in use. With respect to developing effective messages (in relation to transport and climate change) aimed at young people, although the origin of such adverts was not discovered, it is still of importance that these *simple* messages have been retained by the participants.

Further, in relation to more environmentally friendly modes of transport, the only mode considered in this context was the bus and the majority of participants did not regard television adverts to be a source of information about this mode. Participants in group 18F(1) even expressed their beliefs that the bus is not worth being advertised in this way:

> - They make good programmes about cars and stuff. *(Participant A)*
> - Yeah not about buses. *(Participant B)*
> - Yeah they're not so attractive! *(Participant A)*
> - Well that's because people don't want to know about buses. They're not interesting really they're just…I don't know….there's nothing special about a bus other than they get you from A to B. *(Participant C)*
>
> *(Group 18F(1) participants)*

8.3.2. Television programmes

In contrast to the lack of information and signals about climate change received from television advertising by the participants, reflecting those findings reported by Climatechallenge (2006b) (referred to in Chapter Four), the main source of information

[164] Most participants simply replied that they have not.

about this issue, (and the contribution of transport towards it) emerged as television programmes, which participants across the study appeared to recognise most easily and with most enthusiasm. The news was noted in particular by participants in groups 11M(1), 11F(2), 15F(1), 15M(1), 18M(1) and 18F(2). A member of group 18M(1) suggested that climate change is particularly news-worthy because it is "a big issue" and a member of group 15M(1) stated that climate change is "on the news all the time" and that this is "pretty much" where he obtains all of his information about this issue.

In addition to the news, the participants from group 11M(2) referred to information received from the BBC's Climate Chaos Series[165] (which they all agreed they had enjoyed). A member of group 15M(2) also referred to animated television programmes as a source of information about this issue:

> - …if global warming occurs, nuclear winter will cancel it out. *(The other participants look confused)* You don't get it do you? Futurama[166]. You know actually, you'd be surprised how much information there is on Futurama about like climate change stuff…and The Simpsons[167].
> *(Group 15M(2) participant)*

In Chapter Four it was suggested that the television programmes most likely to be referred to as a source of information about climate change would be the news, current affairs or nature programmes and this was the case in the present study. However, reference to Futurama and The Simpsons was somewhat unexpected and illustrates the complexity of where information may be imparted in relation to this issue.

Television programmes were also discussed in relation to the car and despite being prompted (by the moderator) to consider all of the programmes they associate with this

[165] This series ran from 24th May – 6th June 2006 and included a range of programmes (such as Panorama, 'Test the Nation – Know Your Planet', 'Are we Changing Planet Earth?'), as well as eight short documentaries available on the BBC Four website. It is important to note however, that this documentary series was not shown until after the majority of focus groups took place. Perhaps if all participants had had the chance to see this highly publicised and popular series, there may have been further reference to it.
[166] *Futurama* is an animated sitcom which follows the adventures of a former New York City pizza delivery boy who ends up in the year 3000. Global warming is one of the subjects focused upon by the series.
[167] *The Simpsons* is an animated sitcom and a soft-satirical parody of the "Middle American" lifestyle, that mocks American culture, society as a whole, and television itself.

subject, only Top Gear[168] was noted in particular[169], although the motivation to watch this programme varied amongst the participants. Several explained that their motivation laid in the desire to be entertained and amused - participants from groups 15M(1) and 15M(2) referring to it as "funny" "entertaining" and containing "good discussions". Comparably, other participants referred to this programme as a source of information, including a member of group 11F(2). For this participant, it would appear this information has also influenced her beliefs about social norms with regards the car:

> - …my dad always used to watch Top Gear, and you can see the cars that people like look up to…and like you don't want a horrible banger that's going to break down.
> *(Group 11F(2) participant)*

In addition to this and also in relation to social beliefs, a number of the participants commented on the image they believe they are creating by watching Top Gear. For example, a member of group 18M(2) stated that he would not like to be seen as "fanatical" about cars by 'admitting' to watching this programme. He therefore became very defensive when 'accused' of watching it:

> - I don't, I'm not sad anymore…They just say poncy things like "ooo look at that car!"
> *(Group 18M(2) participant)*

This response suggests he is using a degree of impression management in relation to the image he attempted to create about himself in front of the other group-members and the moderator. Such management may have influenced the answers he gave (with respect to the extent to which his response reflects his true attitude towards this programme). In contrast, when the members of Group 15M(2) were asked if they are "into" cars, two of the participants referred to watching Top Gear as an answer in itself, as if to say 'I'm into cars enough to watch Top Gear'. As such, it appeared they were unconcerned about the image such an admission would create about them (in the eyes of others). Together these comments illustrate that people may watch the same programme but do so for different reasons. They may also differ in their willingness to

[168] Top Gear is a 'magazine' program about cars, shown on the BBC.
[169] Fifth Gear (a magazine programme about cars, shown on Channel Five) was also mentioned, but by fewer participants.

admit to watching a given programme due to their differing beliefs about the image that this would portray.

8.3.3. Film

In addition to those sources of information and signals highlighted in Chapter Four (although not new to the current literature), a number of participants referred to the portrayal of the car on film, in particular in 'The Italian Job'[170], although the response to this film varied. A number of participants claimed it influenced their positive attitude towards Mini Coopers, while a number of others claimed that it reinforced their negative attitude towards this type of car. The idea of cars on film was discussed in more detail by group 18M(1), where the participants expressed their belief that films glamorise the car, not only in terms of the car(s) depicted in the film, but 'the car' in general:

> - …they always use the flashiest cars. Kind of glamorise the image of cars.
> - Even if it's not anything like the kind of car we're gonna be able to afford in life, it's still a car.
>
> (Group 18M(2) participants)

They also joke that such glamorisation would not occur (via film) in relation to the bus.

With respect to information and signals about climate change, it was found that the film, 'The Day After Tomorrow' has acted as a source for a large number of the participants, including those in groups 11F(1), 15M(2), 18F(1) and 18M(1). This film is set around the story of mankind's struggle against the sudden onset of catastrophic climate change, an event caused mainly by the greenhouse gas emissions produced via human activity. As such, the Earth enters an ice-age, bringing devastating tornadoes, snow and ice-formation and a rapid drop in temperature (which is depicted as the main cause of death). A member of group 18F(1) referred to the events portrayed in this film as an example of what may happen if society waits for tangible evidence of climate change before attempting to tackle this issue (an idea discussed further in Chapter Ten), as did one of the members of group 18M(1).

[170] The original version of the Italian Job was released in 1969. It is a British film about a mobster-related robbery in Italy. In the chase scene near the end of the film, an original Mini Cooper is depicted as the perfect getaway car. The 2003 remake of this film, also called the Italian Job, uses the updated Mini Cooper for the same chase scene.

Interestingly however, Lowe et al. (2006) investigated the impact of this film on people's perception of climate change in the UK[171] and found that although this film increased the motivation of those watching it to tackle climate change, viewers felt that the film did not provide them with information about *how* to do so. Similarly, as will be discussed in detail in Chapter Ten[172], the majority of participants in the present study also indicated that they require further information in relation to climate change (although these statements were not made when specifically discussing this film).

8.3.4. The internet

The only comments in reference to information received about transport via the internet were made during the discussion with group 15M(1), when the participants indicated that they obtain information about train timetables from this source. Comparatively, a larger number of participants referred to the internet as a source of information about climate change (including those in groups 11M(1), 11F(1) 11F(2) and 18F(2)) and one of the members of group 18F(1) referred to a website linked to her A-level Geography course textbook, although she indicated that this is not a website she has used herself. A member of group 11F(1A) also suggested that the internet is only a potential source of information about climate change "if you're looking for it".

8.3.5. 'Other' media-based information

A number of other media-based sources of information were highlighted by the study, but were only mentioned by a small number of participants. Nonetheless, a member of group 11F(2) explained that her love of Minis has been influenced by her favourite book in which the lead character owns such a car. Further, participants from groups 15M(1) and 18F(1) referred to the information about climate change they have received from the radio and participants in groups 15M(2), 18M(1) and 18F(2) referred to newspapers as a source of information about this issue. However, one member of group 18F(2) suggested that the way in which this information is presented in

[171] This study used two approaches, a questionnaire and a series of three focus groups. 306 respondents, aged 12-29 years, completed the questionnaire and 11 of these respondents took part in three focus groups.
[172] Along with the importance of new and relevant information with regards tackling climate change.

newspapers can be “repetitive” and could be made more “simple”. Again, with further verbal or picture prompting, it may have been possible to investigate these sources in more detail.

8.4. School

Overall it can be said that the participants did not consider school a source of information or signals promoting use of the car, the train, or walking, despite prompting by the moderator to consider these modes in this context. However, a small number did refer to the information they have received about the bus and cycling from this source (with respect to the availability of cycle-storage facilities and the cycling proficiency test, as mentioned by one member of group 11M(1)), although they often referred to their belief that the information they receive in relation to the bus is not effective, or not what they require. For example, participants in group 15F(1) explained that although they have a school bus available to them they receive no useful information about it. Similar comments were made by participants in groups 18F(1) and 18M(1), the latter group indicating that they are aware that a bus service to school exists, but are unsure of how it works. When asked directly whether the school has provided them with specific information about this service, they considered that it would be available if they asked for it - however, the question remains as to whether they should have been given this information irrespective of whether they wanted it or not.

In contrast to this, the majority of the participants referred to school as an important source of information about climate change[173]. It was postulated in Chapter Four that young people are likely to be taught about the link between transport and climate change at various points during their school years and that geography and science are the key subjects in this regard. The results of the present study would appear to support these assumptions in that the participants who agreed that school was an important source of information about climate change, referred to these subjects in particular. For example, the 15 yr-old participants in groups 15M(1) 15M(2) and 15F(2) (all of whom were studying for their GCSEs) indicated that they have been taught about

[173] Illustrating the importance of this source, in the majority of instances it was mentioned as a result of the participants being prompted to consider where they receive information about climate change in general, as opposed to asking them to consider the information they have received from school specifically.

transport-related air pollution and fuel efficiency in science, while members of group 15M(2) indicated that they have been taught about the "Kyoto agreement" in geography.

In addition to this, a number of the 18 yr-old participants (in all groups for this age), most of whom were studying A-level geography, indicated that school is the source from which they have received most information about climate change:

> - If it wasn't for geography I wouldn't have a clue about anything. *(Participant A)*
> - No we wouldn't. *(Participant B)*
> - I'd have a clue, but not as much as we know. Like about what gases might go up. *(Participant A)*
>
> Yeah, you'd know a bit, but not so much. *(Participant B)*
>
> *(Group 18M(1) participants)*

In addition, one member of group 18M(2) explained that he has attended a lecture referring to climate change, which he described as "quite fun"[174].

Despite this, not all of the participants consider school an effective source of information about climate change, although they were far fewer in number than those who feel that it is. For example, the participants in group 11F(1) recalled learning about "the environment" in their science lessons, but two of the participants noted that they have not learnt about the link between climate change and transport. The participants in group 11F(2) claimed that they have not been taught anything about climate change at school, as did two of the participants in group 15M(2). Further, the members of group 15F(2) commented that they feel ill-informed about climate change, and blamed their school for an incomprehensive account of this subject:

> - We don't really get taught much about it. *(Participant A)*
> - They just say about it really and that's it…this causes global warming…but that's it. *(Participant B)*

[174] He did not indicate where this lecture took place however.

- Coz we've only just got taught about it for science exams but that's probably gonna be about it isn't it? *(The other participants nod their agreement) (Participant C)*
(Group 15F(2) participants)

8.5. Family

Overall, despite the suggestion in Chapter Four that young people may feel uncomfortable referring to their families as a source of information about climate change, it appeared that the participants involved in the present study did not feel this way. Several participants referred to their family as a source of information and signals in relation to both transport modes and climate change.

With respect to the car specifically, it appeared that the participants' fathers were a particularly important source of information and signals. For example, one member of group 11M(1) appeared to base many of his beliefs about the car on the experiences (either direct or indirect) of his father, including his dislike of "small cars" which his father has difficulties using because he is "really tall". Comparably, when group 18M(2) discussed their thoughts in relation to Photo 1 (below) one participant commented that he associates such cars with that owned by his father and the "fun" experiences they have had together when using it.

Photo 1: Taken by a group 18M(2) participant

Further to this, a member of group 11M(1) expressed his admiration of his father due to his tendency to "drive really fast" and a group 11F(2) participant referred to watching Top Gear with her father and spoke of the knowledge of cars she has gained from him:

> - My Dad, whenever he sees a nice car, even if he's driving, he knows sort of what car it is like it's a Boxer 360 or something. So I've got used to just knowing the cars.
> *(Group 11F(2) participant)*

It is therefore suggested that these participants consider their father a role model with respect to the car and therefore an important influence on their positive attitudes and behaviours towards it. In addition, a small number of participants indicated that the car is a way to bond with their fathers. For example, during the discussion with group 15M(2), one participant commented that the car is "the only thing I can relate to my Dad with". Similarly, a member of group 18F(2) indicated that a mutual interest in cars provides a link between her and her father:

> - I think it's because of my Dad, because um, I've got it off of him really, liking cars and things. Coz we don't go places to see cars, but he's always said "that's a nice car" and "I like that". It's just, he taught me a few things about cars and I like…just cars.
> *(Group 18F(2) participant)*

As highlighted in Chapter Three and discussed further in Chapter Nine, it is 'emotional cultures' such as this that are a key overlooked aspect of car culture (Sheller, 2004). This finding would appear particularly relevant to the context of this thesis in that Maxwell (2001) suggests that such cultures of car use can easily override any ethical qualms about driving, such as the environmental impact of this behaviour.

Further to these issues, it was noted in Chapter Four that young peoples' attitudes towards the car can be influenced by their parents' beliefs that the car is an important amenity (Lex Report on Motoring, 1999) and by their parents' choice to own a car (Sandqvist, 2002). In the present thesis the degree to which the participants considered their family car an asset will be discussed in Chapter Nine, but it is noted here that the participants in group 15F(1) agreed having or not having a family car as a child can influence your attitude towards cars in general:

> - Well I suppose if you've always had one *(a car)* in your family you're gonna think they're pretty good coz you can go wherever you want, but if you haven't been brought up with one… Coz some families don't have one do they? And

> they're like "ooo they're bad you shouldn't have one" but we've all been brought up with one so we like them *(the other participants nod and verbally agree)*.
> *(Group 15F(1) participant)*

The participants in group 18M(1) also referred to parents as an important source of information about purchasing a car because they have "been there and done it all".

It was also found that a number of participants considered their siblings an important source of information about the car. For example, during the discussion with group 11F(1), one of the participants explained that her brothers laugh at her choice of favourite car, and another referred to her "car crazy" brother who spends family car-journeys naming the cars they pass. A member of group 15M(1) commented that his brother is "a legend" because he regularly provides him with lifts in his car. Siblings were also referred to as a source of information about climate change. For example, when discussing the environmental impact of different types of car, a member of group 11F(1) stated,

> - Some of these sporty cars, I know they use up more petrol, or something, than other cars do, coz my brother told me.
> *(Group 11F(1) participant)*

Together these comments suggest that siblings are an important source of information and signals in relation to the car (even if the participants do not directly admit to this) and climate change, distinct from parents. Siblings are also a source somewhat ignored in the current literature, with the exception of Barker (2003) who, when studying the micro geographies of familial politics, reported that,

> "For some children, siblings played a powerful and important role as allies in contesting decision-making within families. Older siblings were used by children as reference points to demonstrate the validity of their claims. However, just as children contest the views of their parents, children are social actors who also contest the actions of their siblings. This adds another layer to the complexity of everyday familial politics, illustrating that these micro political geographies within the family are not simply relationships between children and adults." (Barker, 2003)

It was also noted in Chapter Four that only 9% of young people consider their family (in general) a source of information about climate change (Climatechallenge, 2006b). However, although not able to be reported as a percentage, the present study found that a substantial number of participants considered their family an important source of information in this context, including those in 11M(2), 11F(1), 11F(2), 15M(2), 18M(1) and 18M(2). Beyond those comments in reference to the importance of siblings as noted above, a member of group 11M(2) said that his parents provide him with verbal information with regards this issue, as well as showing him where to look for information about it on the internet. Similarly, a member of group 11F(1) commented that she receives "a lot" of information about climate change from her mum because her mum "knows it all".

In addition to the participants' remarks about their fathers as role models in relation to the car, all of the participants in group 18M(1) agreed that the behaviour of parents can provide signals with respect to transport and climate change, in that young people's current/intended travel behaviour can be modelled on that of their parents – whether this behaviour can be considered 'environmentally friendly' or not:

> - If you live in a family of kind of very green people then you're not going to go and drive a big diesel car are you? You know you do what your parents do because they like influence you into doing what you do.
>
> - I think lots of people could walk to school, could cycle, don't get lifts, but they're too lazy. But their parents say "oh I'll give you a lift" or they give in and give them a lift if they ask them for one, rather than saying, "no it's five minutes you can walk or cycle." They don't think of the consequence for global warming and that.
>
> *(Group 18M(1) participants)*

A number of participants in the study also referred to family members other than parents and siblings. For example, the participants in group 11M(2) referred to their cousins and grandfathers as sources of information and a group 11F(2) participant commented that she has gained information from her "Nan" and from her grandfather (via her father):

- I've learnt about it from my Dad because his Dad used to be a Danish sea captain and he knew about it.

(Group 11F(2) participant)

However, not all of the participants referred to their families as a source of information and signals about climate change and some even expressly commented that they are not. For example, the participants in group 15M(1) agreed that there is "no way" that they receive information from this source. A similar response was received from a small number of participants in groups 15F(1), who also appeared to find the idea of talking about this issue with their family amusing. Comparably, two members of group 11F(1) indicated that they receive information about climate change from their Father and Mother (respectively), but here they may pose as a negative influence (with regards influencing them away from an intention to drive towards an intention to use more environmentally friendly modes):

- My Dad doesn't care, he would just go for a drive and pollute the Earth even more *(laughs)*.
- My Mum doesn't really care either…when I say about it.

(Group 11F(1) participants)

In addition to these findings, it was also postulated in Chapter Four that parental fears about travel safety (Balzani & Borgogni, 2003; Timpero et al., 2004; Fotel and Thomsen, 2004) part cause young people to rely on their parents for lifts via the car. In the present study, it was also found (although only to a limited extent) that parental fears about safety influence the behaviour of a small number of participants with regards wearing cycle helmets[175], as well as the attitudes of a small number of the female participants (in group 18F(1)) towards walking.

The majority of participants also referred to family as an important source of information and signals about the bus, and it would appear that family acts as the main source of information about this mode for them. For example, members of group 11F(1) referred to the information and signals they receive from their family members (including siblings) in relation to the bus services available to them and one participant explained that without the information she gains from her sister, she would not know

[175] The members of groups 15F(2) and 11M(2) explained that their parents encourage, or force, them to wear a cycle helmet.

where else to go. At the same time however, the majority of comments about the bus were in relation to family members' negative experiences of using this mode. For instance, the participants in group 18F(1) referred to the difficulties experienced by their family members and consider these a reason to favour use of the car instead:

> - …I just think of my Nan because she's like never learnt to drive and she's always had to take the bus. It's sort of like, she's always got to wait until the bus comes and then if she misses it you've got to wait longer. Then I suppose you just see your parents get up in the morning get in the car and go to work and not worry about it.
> - Yeah, whereas I see my mum get up an hour before she has to be in work to get to go and wait for the bus because there isn't one that comes at the right time for her to be there dead on time.
> *(Group 18F(1) participants)*

Similar comments were made by the participants in groups 15F(1), 15M(2), 15F(2) and 18F(1), all of whom referred to the participants' family members arriving late to their destination due to the unreliability of the bus. In addition, although a number of the participants recognised that family (and society in general) are unlikely to refer to their positive experiences in relation to the bus (as seen by the comments below), it appeared that this did not prevent them from using only negative experiences to account for their own and their family's behaviour towards the bus:

> - …someone will tell you that their bus didn't come but they wouldn't say that their bus came. They would say their bus didn't come or they missed the bus.
> - Yeah it's like the whole news thing, it's always bad news. You don't get good news. You never get the good news.
> *(Group 18M(1) participants)*

> - I think your family and friends tell you their experiences but the thing is, if they have a good bus journey they're not going to tell you that are they? But if it's bad they tell you all about it.
> *(Group 18F(1) participant)*

8.6. Peers

It was put forward in Chapter Four that, currently, little is known about the influence of peers on the travel behaviour of young people, with the exception of risk-taking behaviour and the lack of willingness to wear cycle helmets. The present study also found that the influence of peers is important with respect to these issues, as will be discussed in Chapter Nine. In addition to the current literature however, a number of participants (in groups 15F(1), 18M(1) and 18F(2)) referred to the importance of peers as an influence on their desire to own a car. For example, a member of group (15F(1)) stated,

> - …if all your friends have, like, cars and then you don't have one and you want to walk everywhere, they're like "oh no no no let's just get the car" and then you end up liking cars more and more and you want one yourself. Even if you've lived without one and you know you can live without one.
> *(Group 15F(1) participant)*

A small number of participants also referred to information they receive from their peer group about the bus, but whereas participants in groups 11F(2) and 15F(2) referred to the useful information they receive from friends at school with regards bus services, participants in group 18F(1) referred to their peer group as a source of negative 'word of mouth' information about this mode:

> - I had a friend who worked at the Mall and she'd finish at eight and had to wait until the bus came at nine o'clock. She just waited around for an hour with nothing to do and if she had her car she could home in about half an hour and she wouldn't have to wait for ages. And plus when the bus actually came she said she had to take a long roundabout route before she actually got back to the right town.
> *(Group 18F(1) participant)*

In relation to the information and signals the participants gain from their peers with regards climate change, despite prompting by the moderator, only one participant (from group 18M(1)) referred to this source when asked what influenced his attitudes towards climate change (and even then he only mentioned it in passing, before moving on to a

detailed account of the information and signals he receives from his family with respect to this issue). In this sense, it would appear that climate change is not something the participants discuss amongst their peer group, or want (for any reason) to admit to talking about in such a way.

8.7. The bus industry

When the participants were prompted to consider the information and signals they have received about the bus, a number of participants referred to timetables (including those in groups 11F(1) and 11M(2), 15M(2), 18F(1) and 18F(2)). However, a member of group 18F(2) commented that they can be hard to read and therefore considers the need for a clear display of information on the front of the bus (via the panel exhibiting the bus's destination). Similarly, participants in group 15M(2) commented that they find them "confusing", suggesting that the timetable for them, in its current form, poses a negative influence on their attitudes towards the bus. A member of group 18F(1) also commented (and the other participants in this group agreed),

> - …the bus timetables are a nuisance as well. You've got to try and find what bus you've got to get but with a car you just get in and go. I don't really get the bus timetable at all because you've got like bank holidays and then week-days…it's confusing.
> *(Group 18F(1) participant)*

Another member of this group commented that she no longer receives bus timetables, but in a tone that suggested a sense of disappointment. In contrast to the comment above, she explained that it is because she is without a timetable that she now feels confused about the services that are available to her.

Several other participants pointed to the general lack of information available to them regarding the bus, and the problem of the information they do have being incorrect. For example, the participants in group 11F(1) explained that they have to actively seek out information about the bus by looking for timetables, or asking friends and family for times and bus service numbers, rather than it coming to them in a similar fashion to that in relation to the car through television adverts. Further to this, a member of group

15M(2) commented on his frustration when buses change their timetables or their routes, in that he has to re-educate himself with the new times and services.

The participants were also prompted to consider the promotional information they have received from bus companies compared to that they receive in relation to the car - something that was not self-prompted by the majority of groups. However, only the participants in group 15F(1) referred to information they have received in this context and even then they only referred to information they have seen at bus stations, stating that they are unaware of information in any other location or in any other form (with the exception of timetables as noted above). In addition, one of the participants in this group suggested that such promotion is insignificant:

> - …on the actual bus it says like "ooo you can get ten fares for the price of eleven" or something crappy like that which no one wants.
> *(Group 15F(1) participant)*

Similarly, the participants in group 18F(1) revealed mixed opinion regarding the likely success of promoting the bus. While one participant believed new buses should be advertised on the television, another member of the group claimed this would be pointless,

> - …the point of advertising cars is for people to buy them. You don't want to buy a bus do you? I don't know, it just seems stupid to advertise a bus…you know they're there.
> *(Group 18F(1) participant)*

In response to this comment, the first participant suggested that without advertising, society will be left with a negative perception of the bus[176] and in this sense recognises the potential power of television advertising with respect to changing the attitudes of society. In comparison, all other participants in the study did not consider bus companies a source of information in relation to the bus.

[176] Specifically she commented, "when you think of the bus you think of it like that don't you *(pointing to image 4.2)*? …Kind of you just think of it and loads of people all packed together."

8.8. Experience

As discussed in Chapter Four, experience is a key source of information and it is important to establish whether an attitude is based on experience of the attitude-object (for example, 'the car', 'the bus', 'walking' or 'cycling') and therefore considered to have an 'intra-attitudinal structure' – the attitude structure considered most difficult to change. With respect to the present study, it was noted that a large proportion of the comments made by the participants in relation to transport were on the basis of experience, as will be seen in Chapters Nine. Thus, the purpose of this section is to consider the participants comments in relation to their beliefs about the importance of experience, rather than to summarise the level of experience they have had of each mode and the degree to which this influences their attitudes and behaviour. In light of this it can be said that a small number of participants recognised that experience is an important form of information. For example, a member of group 18M(1) talked about the influence of an individual's past experiences on their current attitudes, specifically those in relation to the car:

> - If you've owned like say a Ford all your life and there's nothing ever wrong, you're more likely to buy a Ford, rather than just see an advert for a different car and go, "oh I want that one". So past experience as well I think.
> *(Group 18M(1) participant)*

Similarly, a member of group 18M(B) commented that he has "accumulated" his knowledge of cars from experience "over the years". This comment is noteworthy in that it appeared he is unsure of how and where he has gathered this information, reflecting the difficulty participants experienced in identifying where they receive information, which is in part due to the likelihood that much of this information is received subconsciously. However, of particular note were the comments of a member of group (18F(1) who suggested that the experience of using the bus is more powerful than any third-party information that can be given in relation to it,

> - I think, because we've used them so many times and we know what they're like now, unless they made a big difference and changed them, we'd probably just have the same thoughts about them.
> *(Group 18F(1) participant)*

8.9. Summary and discussion

In light of the main aim of this thesis – to better understand the attitudes of young people towards transport, their willingness to tackle climate change and whether their willingness to tackle climate change acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour - this thesis asked the young people involved in the present study where they receive information and signals about transport and climate change. The purpose of this was to better understand the range of sources that influence them, the degree to which they receive potentially conflicting messages (i.e. those promoting use of the car in contrast to those promoting the need to reduce use of the car in light of the impact of transport on climate change), whether they are aware of such conflicts and how they respond to this information and these signals in general.

The results elicited may then be used in the development of information provision and transport policies and intiatives aimed at reducing young people's intended use of the car as a driver and increasing their intention to use more environmentally friendly modes. Having reviewed the current evidence base, it became clear that these issues (in this context) had not previously been explored to any great extent (as highlighted in Chapter Four). Therefore this thesis has not only contributed to understanding in this area, but by asking the participants about these issues via discussion groups, it has also taken a new (and arguable more effective) approach to exploring them[177]. In light of this, a number of findings have been made:

Firstly it is important to note that, as highlighted in Chapter Seven, there were no significant differences in the comments made by age (beyond phrasing). This was an unexpected finding on the part of the present researcher, and an important insight with regards the way new information (promoting a reduction in their current and intended use of the car and increasing their use of more environmentally friendly modes in light of the impact of transport on climate change) is developed, disseminated and provided to young people. This finding suggests that such information could focus on the same issues and be delivered in the same way across young people in the age group

[177] This is in contrast to the study carried out by Climatechallenge (2006b) where, as part of a larger survey, a single prompted answer question was used in reference to this issue, and one only in relation to information about climate change (as opposed to transport and climate change).

studied. Therefore, it is suggested here that further research is needed to investigate beyond the boundaries of this age group in order to assess at what age young people's response to information changes.

Secondly it was found that, in general, the participants could recall information they have gained from television programmes about climate change more easily than they could the car. In fact, mirroring those findings reported by Climatechallenge (2006a), television programmes were considered the most important source of information with regards climate change by the majority of participants. However, in addition to the current evidence base, the participants could recall television adverts promoting the car more easily than they could those promoting the need to tackle climate change or the concept of saving energy. In this sense, it is difficult to say whether these participants are more likely to be exposed to information and signals aimed at promoting the car than they are information and signals highlighting the need to tackle climate change (by changing their current/intended travel behaviour in particular) via the television. Nonetheless, it can be said with more conviction that none of the participants had seen adverts about the bus (as a more environmentally friendly mode of transport), or considered the bus worth advertising on television in the first place.

In response to this finding this thesis points to the increasing degree to which companies advertise the 'green-credentials' of products in response to the commercial importance of doing so (Jones and Levy, 2007). With this in mind, it can be suggested that, if asked now, the same participants may be able to recall more information that they have received via the television in relation to climate change. Nonetheless, as noted in Chapter Two, the huge investment available to car companies for promotion of their product heavily outweighs that available to the Government and other parties to promote use of more environmentally friendly modes – thus it is not surprising that information and signals gained from this form of media is/are generally in favour of promoting the car. At the same time, as car companies increasingly promote the green credentials of their product (with respect to improved fuel consumption and reduced greenhouse emissions), this is likely to further complicate the information available to individuals in relation to understanding which transport mode is truly the most environmentally friendly.

Nonetheless, this is not to say that promoting the need to tackle climate change (via changes in transport behaviour in particular) is not worth advertising. As noted

previously, those participants who had seen a television advert in relation to climate change believed it to be particularly effective. It is therefore considered worth investigating (as part of future research) whether further release of this advert would increase awareness of climate change (and the link between this and transport) and whether combining such an advert with the types of 'simple' messages promoted in relation to saving energy (as recalled by the participants) would improve their understanding of this issue and in turn influence their attitudes and behaviour towards tackling it.

It was also found that, although the participants were able to readily recall car adverts, a large number of participants referred to such adverts as unrealistic and the majority agreed that they (and other people) are more interested in the advert rather than the car it is advertising as a consumer product. As discussed in Section 8.2.2.1., it is postulated that age (or 'life-stage') may be a determining factor in this context, as most of the participants are not in a financial position to buy a car – something a small number of the participants recognised themselves. In addition it was put forward that, despite their cynicism about such information, the messages they have received (in relation to their favourite car for example) are likely to be recalled when they do come to buy a car. However, it is also suggested by this thesis that while they are unable to 'act on' this information (as well as their questioning of such information before the age of licence acquisition) there may be room to promote use of more environmentally friendly modes as an opportunity to help tackle climate change. Although they may also question this information, the issue of climate change and taking action in light of it is not bound to their age or life-stage and in this sense they can use this information now, in contrast to that in relation to the purchasing of cars.

With respect to films, it was found that a higher number of participants readily referred to this as a source of information about climate change than about the car. However in both cases the participants referred to the important messages they have received from this source – that some films tend to 'glamorise' the car, while others (in this case The Day After Tomorrow) serve to warn of the dangers of ignoring climate change. In turn, a number of participants indicated that they feel they have a deeper understanding of climate change as a result of watching this particular film. However, the participants who discussed both types of film mentioned above did not question the conflict in messages they have been given, suggesting that those in relation to what they can *do* to tackle climate change were not made clear by this particular film -

something Lowe et al. (2006) found to be true for the participants in their study and is discussed in relation to the present study in Chapter Ten.

In relation to school as a source of information, it was put forward in Chapter Four that young people are likely to be taught about the link between transport and climate change at various points during their school years and that geography and science are the key subjects in this respect (DHC, 2003). In addition to Climatechallenge's (2006b) findings, the results of the present study would appear to support this assumption and a number of the 18 year old participants stated that school is where they gain most information about this subject. However, a small number of participants stated that school is not an effective source of information about climate change, with particular reference to the link between this issue and transport. The majority of participants also considered school an inefficient source of information about the bus. This may be due to the fact that none of the schools involved in the present study implemented a school travel plan (as outlined in Chapter Four).

It was also found that the participants tend to receive *mixed* messages about transport and climate change from their family and peers. In relation to those promoting use of the car, the participants in group 15F(1) agreed that having or not having a family car as a child can influence your attitude towards cars in general (thus supporting those findings made by Sandqvist, 2002 and The Lex Report on Motoring, 1999) and those in group 18M(1) agreed that they would ask their parents for advice with respect to buying a car. In addition to the current literature, a number of participants referred to the importance of peers as an influence on their own desire to drive and buy a car. Others considered their interest in cars a way to bond with their fathers and, in contrast to the findings presented by Climatechallenge (2006b) it appeared that these participants (and a number of others) consider their father a role model with respect to their positive attitudes towards the car and their intention to continue to drive or to learn to drive in the future. Confirming those conclusions made by Barker (2003), the participants also referred to their siblings when discussing their attitudes towards this mode.

In comparison, a number of the participants referred to the negative information they receive from family and peers about the bus (via their observation of family members' and peers' negative experiences using this mode and/or negative 'word-of-mouth' information about it), despite a number of the participants recognising this information may be biased due to the tendency of people not to refer to the positive experiences

they have had using this mode. Further to this, parental fears in relation to safety negatively influence the attitudes of a small number of the female participants towards walking, linking to those findings made by Balzani & Borgogni (2003), Timpero et al (2004) and Fotel and Thomsen (2004). In this sense it would appear that family and peers provide the participants with more information promoting use of the car than use of more environmentally friendly modes. At the same time however, a substantial number of the participants considered their family an important source of information and signals about climate change including the messages they receive from parents, as well as siblings, cousins and grandparents. As picked up in Chapters Ten and Eleven, it is these mixed messages that pose the greatest challenge to developing successful ways to disseminate information about the need to reduce excess use of the car and increase use of more environmentally friendly modes of transport (in light of the impact of transport on climate change).

Also in addition to the current evidence base, it would appear that promotion of the bus (as a more environmentally friendly mode of transport than the car or otherwise) to these young people is lacking. Only a small number of participants were aware of such information and had only received it at bus stations. One group even argued that there is nothing positive to advertise in relation to the bus in the first place. Further, although participants in groups 11F(1) and 11M(2) considered bus timetables an important source of information about this mode, a number of other participants considered timetables confusing and frustrating. This is perhaps reflective of those findings elicited via the workshop with the Ten Percent Club where, as noted in Chapter Four, representatives from the bus-industry explained that they do not consider young people a specific and important group of customers when attempting to improve the design and quality of their product as well as selling it. In this sense it would appear that they are relying solely on the participants having a positive experience when using this mode in order to retain them as a customer. However, as suggested by the negative experiences of family and peers referred to by the participants (as well as their own negative experiences as will be discussed in Chapters Nine and Eleven), this is a somewhat misguided approach.

Thus overall it can be said that television adverts and family were the sources of information and signals recalled most easily by the participants in relation to the car; family is generally considered an important source of information and signals about the bus; and television programmes, family and school were the sources of information and

signals most easily recalled in relation to climate change. In contrast, despite some prompting with regards cycling, walking and the train, with the exception of the participants' comments regarding the information they receive about cycling at school, these modes were discussed mainly in the context of the participants' experiences of them, as will be shown in Chapters Nine and Ten and discussed with regards the implications of this in Chapter Eleven. It is therefore suggested here that there may be scope for increasing the amount of information available to this age group with respect to these modes in particular, or improving that which is already available, in that such information (*if* available) is not readily recalled by the participants.

However, it can also be said that the findings presented in this chapter indicate that the ways in which young people receive information about transport and climate change is complicated by not only the number of sources potentially influencing them, but also the mixed messages they may receive and the varying ways in which individuals respond to the same source (which is also not limited by age). At the same time it is noted by this thesis that there is an important intereaction between a number of these potential sources of information and signals. For example, school and family may limit or increase the level to which young people gain access to the mass media; family can limit or increase the extent to which young people experience tranport modes via enforced behaviour; school can limit the extent to which young people gain information from peers and also provide a source of information to their peers which may be passed on to them; and the experience of transport modes (as provided by the transport industry) can also act as an important source of information. Further, as noted in Chapter Seven, it is recognised that such information will be in a constant state of change (on a temporal scale). Consequently it is concluded by this thesis that it would appear inappropriate to consider utilising one single source of information (such as a single leaflet drop, series of school presentations or billboard campaign) when developing new ways to provide young people with information about transport and climate change.

Further to this, the process of carrying out this part of the study and analysing the results has left the present researcher questioning whether it is possible to gain an accurate picture of the souces of information affecting young people (or people in general) at all. Although limited in the extent to which it was discussed and the limitations of the study as a whole (as outlined in Section 8.1.) this part of the group sessions led to an enthusiastic response from the participants and revealed a number

of new insights. However, it is difficult to imagine that they (or society in general) are capable of revealing all of the ways in which their attitudes and behaviour have been influenced by information and signals and where these originate, in that much of it may have been received subconsciously. It is also the case that, although a number of participants illustrated a degree of 'prioritising' (in terms of the degree of importance they attributed to) the sources from which they receive information and signals and the subject to which theses were related[178], it is suggested here that they are unlikely to be consciously aware of, or capable of articulating, all of the ways in which they do so. In this sense, this part of the study reflects the degree to which further and more focused research is required in relation to this issue. Suggestions for such research are discussed in Chapter Eleven.

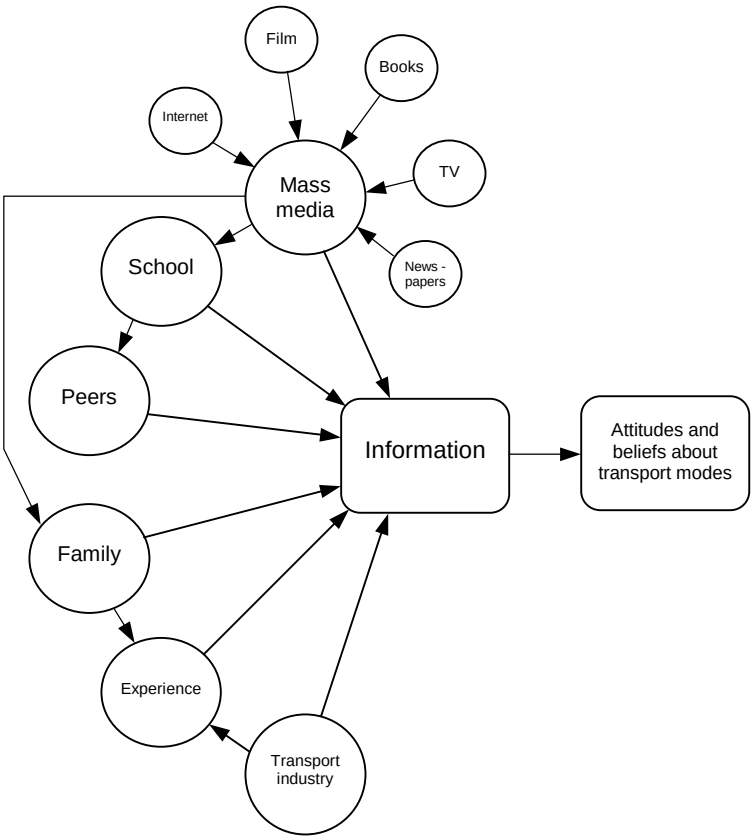
8.10. The research framework

With respect to the aim of developing a conceptual 'research framework' as a guide/map to the findings elicited by the present study, the findings presented in this chapter can be represented as done so in Figure 12 (page 182). As such, it is held that the sources of information identified above act an important (but not the only) influence on the participants' attitudes and beliefs in relation to transport modes. As will be illustrated in Chapters Nine and Ten, these attitudes and beliefs include norm beliefs – of which willingness to tackle climate change is one. The importance of the interaction between a number of these potential sources of information is also illustrated.

With these findings in mind, the attention of this thesis now turns to an account of the participants' attitudes and beliefs in relation to transport modes, which are in part based upon the information and signals received from the sources identified above.

[178] For example, a number of participants disregarded messages from one source of information and signals (such as bus advertising at bus stations) in favour of the messages they receive from another source (such as negative word of mouth information about the bus from family members) or in relation to another subject (for example, television adverts in relation to the car).

Figure 12: Sources of information



Chapter Nine
Attitudes and beliefs towards transport modes

9.1. Introduction

Chapter Eight discussed findings in relation to the sources of information and signals the participants are influenced by with respect to their attitudes and beliefs towards transport modes and their willingness to tackle climate change (via changes in their travel behaviour intentions). As stated in Chapter Seven, the present chapter builds on this understanding by presenting an account of the participants' attitudes and beliefs towards transport modes – a subject that the vast majority of participants discussed with enthusiasm and in great detail. Attention is therefore given to the influence of behavioural beliefs (in relation to the attitudes formed on the basis of these), social norms, image, self-identity, role-identity and control beliefs, as well as the degree to which these factors varied according to life-stage and gender. Willingness to tackle climate change, the only personal moral norm discussed by the participants, is the subject of Chapter Ten.

At the outset however, it should be recognised that a number of the findings in this Chapter are limited by their sub-regional applicability. As noted in Chapters Six, Seven and Eleven, the sample recruited for this study was limited to Bristol and the surrounding villages. Consequently, although relatively universal factors such as peer pressure and the importance of image and identity are likely to apply to young people wherever they reside, more specific transport issues such as access to public transport, reliability of public transport and the information available to the participants in relation to such transport, will differ from region to region across the UK. For example, Bristol's 'transport culture' is very different to that of London, Manchester or Sheffield in that it is renowned for having a poor public transport system. Unlike these cities, Bristol has no underground system, light railway, or train station located in the city centre. Consequently, public attitudes towards public transport are likely to differ between these locations for the same reasons.

9.2. Attitudes towards transport modes

To this point, the present thesis has referred to the importance of understanding the participants' attitudes towards transport modes where it is assumed that the attitude objects refer to "the car", "the bus", "the train", "walking" and cycling". However, in response to the complexity and depth of the data elicited by this study, it became clear that such attitude objects needed to be broken down further. As such, this section discusses the participants' attitudes towards factors *within* each mode, using the headings "speed of travel and the importance of shorter journey times", "the monetary cost of transport modes", "the flexibility of, reliability of and access provided by transport modes", "the impact of transport on health" and "the journey experience". This chapter also emphasizes the importance of exploring both the participants' rational cognitive responses and their emotional (affective) responses to transport modes – reflecting the two dimensions of attitudes as discussed in Chapter Three.

9.2.1. Speed of travel and the importance of shorter journey times

Overall, it was found that the participants' beliefs about, and desire for, speed and shorter journey times when travelling act as an important influencing factor on their attitudes towards different transport modes. With this in mind, it became clear that a number of the participants consider the car the fastest mode of transport with respect to journey times (including those in groups 11M(2), 11F(2), 15M(1), 15M(2), 18M(1) 18M(2), 18F(2) and 18F(1). As a result, they see this as a positive attribute to this mode and a reason to use it in favour of those considered more environmentally friendly – particularly the bus. For example, participants in group 15M(2) spoke of their experiences of, and frustration at, waiting for a change of bus driver and a member of group 18F(2) commented that she considers the car "more convenient" due to the indirect nature of bus routes and the extra time it takes to make a journey:

> - …you need to use a car just for quickness I think more that anything. Coz the bus, instead of just going from there to there *(draws a straight line from point to another on the table)*, it goes *(draws a long, winding route between the two same points on the table)*.
> *(Group 18F(2) participant)*

This participant also indicated in her photo booklet that she chooses the car in favour of the bus to access her place of work, due to the time-pressure she associates with the latter mode. However, contradicting this, she also recognises (in her photo booklet - in reference to her photo of an empty bus (Photo 2, below) that if more people used the bus, this may reduce congestion. With further probing (had this inconsistency arisen in the verbal discussion with the group), it may have been possible to establish why her attitudes and stated behaviour contradict each other in this way. Here it can only be assumed that, although she believes buses should be utilised to a greater extent, she also sympathises with society's desire to travel at speed and in the fastest time possible (particularly to work), which until everyone uses the bus, cannot be guaranteed when using this mode. Such an attitude is also an example of the 'Social Dilemma' (Garling et al. 2002) referred to in Chapter Two (i.e. "I'm not a sucker: I will give up my car and use the bus when everyone else does the same").

Photo 2: Taken by a group 18F(2) participant

Importantly, despite at least one participant in each group recognising that the car may not, in reality, afford them the speed they desire (due to traffic jams and speed limits) the participants who considered the car the fastest mode available to them did not change their opinion that this is the case or that this is a positive attribute to the car in comparison to other modes. Similarly, participants who commented that the bus is associated with a lack of speed in comparison to driving did not change their opinion when other participants (in their group) drew attention to the fact that the bus often travels at the same speed as cars in urban areas. This illustrates the level to which these participants' attitudes towards each mode are fixed, even if they are made aware of the potential faults in the beliefs upon which their attitudes are based.

In relation to their intention to drive in the future, it also appears that these expressed attitudes are influenced by cognitive dissonance and/or impression management, in that even when they are notified that their beliefs (and analogous attitude) may not correspond with what happens in reality, they continue to express the same attitude (that the car is faster than the bus) in order to align it with their behaviour or intended behaviour (e.g. use of the car in favour of the bus) and thus feel more at ease as a result.

Nonetheless, beyond the journey time once on the bus, it should be taken into account that a number of the participants also considered the time taken to walk to and wait at the bus stop, something that is not necessary when using the car – thus reducing the overall time taken to complete a journey by the car in comparison. In this sense, their belief that the car is a faster form of transport than the car is understandable. At the same time however, it cannot be said that the participants were unwilling to recognise that other forms of transport may provide suitable journeys times (depending on the circumstances) and/or a faster mode of travel than the car. For example, when asked to consider the positive attributes they associate with modes of transport other than the car and the bus, a number of participants (in groups 11M(1), 11M(2) and 18M(2)) referred to the high speed travel they believe the train is capable of affording them - also considering it faster than the bus. In addition, several participants (including those in groups 15M(2), 15F(2), 18M(1) and 18F(1)) referred to the speed they associate with cycling, both in comparison to walking and also congested road traffic, particularly in reference to image 3.1:

> - *(Pointing to image 3.1)* That shows the benefit of cycling as well. Obviously you can go straight down the road. They're sat their watching them cycling, while they're driving." *(Group 18M(1) participant)*
>
> - You've got people on their bikes there *(pointing to image 3.1)* - the quicker way. They're going faster than the cars because they're in a traffic jam.
> *(Group 18F(1) participant)*

Overall it would appear that, although a number of the participants recognise that cycling and the train may prove the fastest mode of transport in certain circumstances, the majority consider speed and journey times an important factor with respect to their

travel needs and would therefore choose the car first - whether they are able to drive or not.

9.2.2. Monetary cost

Although monetary cost was discussed as a control factor in Chapter Four (in response to those findings reported by Turner and Pilling (1999), DHC (2003) and DETR (1999)), with respect to the present study it became clear that cost influenced the participants' behavioural beliefs[179], rather than their control beliefs about the *feasibility* of different modes of transport. For example, despite several participants (including those in groups 11F(1), 11M(2), 15M(1), 15F(1), 15F(2), 18M(1), 18F(1) and 18M(2)) pointing to cost as an issue in relation to buying a car, they did not believe it to be a reason not to learn to drive. Illustrating a somewhat sophisticated level of reasoning, the participants in group 11M(2) pointed to the dilemma of needing a job to afford a car, but at the same time, the importance of having a car in order to access employment:

> - …the thing is, if you're going to drive a really nice car, you're going to be really rich. So if you're really rich, you're going to be able to afford petrol. *(Participant A)*
> - But you've got to get a job before you can buy a car…but you need to get to work. *(Participant B)*
> - But to get the job you need to be driving. *(Participant A)*
> - Yeah, you need to get to the job somehow, and if it's really far away you need a car, but you don't have a car because you don't have any money. *(Participant B)*
> - Because you don't have a job *(Everyone laughs). (Participant A)*
>
> *(Group 11M(2) participants)*

These comments relate to an important issue with regards social exclusion where it has been found that, in addition to the problems of poor transport in general, people without a car experience difficulties in accessing a number of important amenities, including work and health facilities (SEU, 2002). It is therefore of note that these participants, even at the age of only 11, associate such problems with a lack of car

[179] i.e. beliefs about the outcome of behaving in a certain way.

ownership, and that they did not appear to consider that they may be able to access work via other modes. In this sense it appears that they automatically (or have been conditioned to) associate the car with the ability to access work. It is thus suggested by this thesis that for these (and other) young people, gaining the ability to drive and owning a car are likely to become as important a life-goal as finding a job – they become one and the same goal. Although this may be reflective of the lack of other transport alternatives in some cases (and therefore understandable), such an attitude may lead to people simply not considering other, more environmentally friendly, modes of transport when they are available (or even other jobs where use of more environmentally friendly modes may be more feasible).

Further to this, a number of participants in groups 15M(1), 15F(1), 18M(1) and 18M(2) indicated that relief of the cost of the car (including the cost of lessons, driving test(s), insurance, petrol and other running costs) via their parents and use of their parents' car removes the negative influence of this factor on their desire to drive or own a car now or in the future:

- It's always free if your Mum's giving you a lift.
- Yeah, they pay for it, so it's cheap *(smiles)*.

(Group 15M(1) participants)

- If me Num's giving me a lift somewhere… *(Participant A)*
- …I'm not going to say no. *(Participant B)*
- Yeah coz it's cheaper, you don't have to pay to go in your car, but you have to pay to go on the bus.

(Group 15F(1) participants)

The participants in group 15F(2) suggested that use of their parents' car (as a passenger or otherwise) is a right, despite the cost to their parents, because they feel that it is the "only" way that they can access what they want and need to do:

- **…do you ever think about the cost of making a journey by car?**
- My Mum's always gone on about it because I'm always like "Can you take me here?", "Can you take me there?"…coz it's all really far away. So she's always moaning, but I've got to go by car.

(Group 15F(2) participant, moderator in bold)

Linked to the relief of the cost of the car by parents, it was also found that the participants' lack of concern about the costs of this mode is influenced by their intangibility. This issue was also discussed with respect to the bus, particularly by the participants in group 18F(1) who referred to the costs of the car as being 'out of sight, out of mind' when they are using their parents' car compared to the cost of using the bus which is 'up front' each time they use it:

> - I don't think about it in the car as much as, like, when I get on a bus.
> - Yeah, coz you've always got to make sure you've got the right change when you go on the bus, so the money's an issue there and then.
>
> - …when you get in the car you don't think about it do you. Even though you pay for insurance and stuff. You've always known you've got to pay to get on a bus whatever.
>
> *(Group 18F(1) participants)*

Also with respect to the bus, the majority of participants referred to this mode as too expensive and a reason to choose the car instead - including those in groups 11M(2), 11F(1), 15F(1), 15F(2), 15M(1) 15M(2) and 18M(2). Further, participants in group 18M(2) illustrated a deeper understanding of the economics of the bus services available where they live and a cynicism towards the same (they were also the *only* participants to understand that the bus is not owned by the Government):

> - The thing is with the whole structure of the organisation, I don't think it's very fair. Coz of how the First people, coz it's not actually public, it's private, they just dominate it and they can set any price they want really. I think sort of… *(Participant A)*
> - They've got a bit of a monopoly going haven't they? *(Participant B)*
> - Yeah, I think someone should intervene. *(Participant A)*
> - Yeah they should have like government bus companies. *(Participant B)*
>
> *(Group 18M(2) participants)*

Despite this seemingly negative attitude towards the cost of the bus (as a more environmentally friendly mode of transport), when the participants were prompted to consider whether anything could be done to improve the bus and in turn increase their

use of it, the majority suggested a reduction in prices and a small number discussed bulk discounts. Further, the participants in group 15M(2) claimed that they would use a bus pass if one was available to them and the participants in group 18M(1) displayed a positive attitude towards smartcard technology[180]. Overall, this finding (and those outlined above), partly explain why the participants intend to move, or have moved, away from use of the bus, but at the same time suggest that there may be hope for increasing their use of the bus in the future.

Contrasting findings were made in relation to the train. With the exception of one group 11M(1) participant who believes that the train is "expensive" (which acts as a disincentive for him to use it) the participants in groups 11M(2), 15M(1), 18F(1) and 18M(2) all considered the train cheaper than the bus and a member of group 15F(1) claimed the train is cheaper than the car. Further, with respect to the potential of financial incentives to use the train as a young person, it appeared that the participants in group 18M(1) are aware of student railcards and, although they do not own one (due to their belief that they do not use the trains enough (or at all) to justify purchasing one), they commented that they would obtain one if they used the train more often. In this sense it would appear that the train may offer an alternative to the car with respect to cost. However, it should be remembered that, as noted in Chapter Seven, the majority of participants do not currently, or intend to, use this mode in the future.

9.2.3. Flexibility, reliability and access

Similar to the results elicited in relation to the speed of travel and journey times, a high proportion of the participants (irrespective of age and gender) indicated that the flexibility in travel they believe they will gain (and have already gained) via the ability to drive acts as part reason why they currently, or intend to, favour use of the car over more environmentally friendly modes. This appears to be due to their belief that driving will provide them with a reliable form of travelling when, where and for how long they desire:

> - …there's more flexibility to do what you want to do once you can drive.
> *(Group 11F(1) participant)*

[180] Although they were unconvinced that it would work in the area where they live.

- You can, like, go at whatever time you want instead of having to wait for the bus.
(Group 15M(1) participant)

A number of the participants also referred to their belief that use of the car can provide them with independence and access to destinations, people and amenities important to them, including jobs (referred to by those in 15M(2)), sports facilities (as referred to by participants in groups 15F(2), 18M(2) and 18F(2)), friends (referred to by members of group 11F(1)) and shopping malls (as noted by group 18F(1) and 15F(1) participants). One participant in group 18F(2) even claimed that,

- …if you want a life really, you have to drive.
(Group 18F(2) participant)

Even when participants in group 18F(2) were discussing photo 3 (below) and pointed to their concern about the restricted availability of parking in the streets where they live and the limitation this may impose on their ability to use the car, it became clear that this did not alter their positive attitude towards the car and driving. Instead, this issue was referred to as a hindrance to the easy use of the car, rather than a reason to reduce or stop driving.

Photo 3: Taken by a group 18F(2) participant

Similar sentiments were revealed by the participants in group 11M(1), in response to image 3.1:

- The traffic bothers me…in the morning and when you're trying to drive back from school and that.
- Yeah sometimes it's like, you're trying to get out, but other cars get in the way.

(Group 11M(1) participants)

In this sense it does not appear that these participants recognise that by travelling in a car themselves, they are contributing to congestion, or that they feel a sense of responsibility for this. Instead, they simply see the congestion as an annoying interruption to their journey by car.

In comparison, the results of the present study support those of Turner and Pilling (1999) and therefore contrast with those reported by DHC (2003) (as discussed in Chapter Four), in that the majority of participants considered the bus unreliable – a factor that, in many cases, appears to act as a motivation for the participants to use the car instead. Typically the participants referred to the need to allow for being late to your destination if you are using this mode and lack of correspondence between the timetable and the timing of the bus service in reality. A member of group 11M(2) commented on his experience of such issues:

- Once I was at my bus stop, and I was there at like ten past seven, and there was a public bus which had nothing to do with me. Anyway, loads of people were queuing up and until about twenty to eight and waiting half an hour, and the bus is meant to come every ten minutes, so three buses should have come by then, and then three buses came at the same time.

(Group 11M(2) participant)

Similarly a member of group 18F(2) referred to her frustration at the irregularity of the bus she used for her journey to work and her choice to use the car instead.

A number of participants also referred to the inflexibility they associate with the bus, including those in groups 18M(1) and 18F(1) who commented on the limitations of bus timetables and a corresponding limited service, which they indicated has influenced their decisions to use the car in favour of this mode:

- …you're always under pressure. You're always thinking "oh what's the time, where've I got to be at the bus stop" or whatever. And some people just don't like having that pressure. You like to take your time, wander about town or something.
(Group 18M(1) participants)

- If you go to the mall, there's a bus on the way back at about half past one. But then there ain't nothing till about half past four so what are you supposed to do?
- Exactly, if you don't want to stay there for like, another three hours, it's crap.
(Group 18F(1)participants)

Further to this, a member of group 18F(2) explained that, although her house is only "thirty seconds" from a bus stop, she still feels "controlled" and "limited" by the bus timetable and compares this to the flexibility of the car (as well as cycling and walking) which she considers,

- …you can just go out and use it ASAP.
(Group 18F(2) participant)

Participants in groups 15M(1) and 18M(1) also referred to the (in)flexibility of the bus, as well as that of the train, with regards transporting their bikes - which in turn illustrates the inflexibility of cycling in that they are relying on another form of transport to access a specific cycling destination. For those in group 15M(1), it appeared that the advantage of being able to transport their bikes on a train (which consequently allowed them to carry out an enjoyable social activity in a favoured location) in comparison to the inability to do this by bus acted as an incentive to use the former in favour of the latter. A similar comment was made by a member of group 18M(1), but here, the inflexibility of both the bus *and* the train acts as an incentive to use the car instead,

- …you can't get anything on a bus. Not a chance getting a bike on a bus. On a train you can but there's only a certain number of bike spots, so I just get in a car and drive with mates to them, it's a lot easier.
(Group 18M(1) participant)

Further, although only participants from group 18F(2) commented on the reliability of the train, it is noted that they did not associate the train with the same unreliability that they do the bus. However it also appears that they are not basing this perception on experience, instead using their lack of experience as the basis for their opinion:

- I've only caught the train when it was on time, so I haven't experienced them being late. (Participant A)
- No I don't think I've experienced the trains being late. *(Participant B)*
- It's just all the buses being late all the time. *(Participant C)*

(Group 18F(2) participants)

A number of comments were also made with respect to the external factors the participants believe limit use of cycling and walking and therefore the reliability and flexibility of these modes. Firstly, reflective of those findings made by EPPI (2003) and Mackay (1997) (as referred to in Chapter Four), a number of participants (from groups 11F(2), 15F(1), 15M(2), 15F(2) 18F(1), 18M(1), 18M(2) and 18F(2)) referred to their belief that the weather acts as an influence on their attitude towards, and ability to utilise, walking and cycling. For example, members of group 18F(1) suggested that cyclists are vulnerable to unpredictable weather and that using the car is easier "if the weather is bad". Similarly, a number of other participants referred to inclement weather as a key factor in their decision to walk:

- If it's pouring down with rain then you want to drive. If it's a nice sunny summer's day then you're gonna walk.
- Yeah coz with public transport you've got to walk to the bus stop, so if it's raining you're not gonna do that.

(Group 18M(1) participants)

- As long as the weather's nice you enjoy walking then don't you?
- Yeah I definitely walk a lot more in the summer.

(Group 18F(2) participants)

Secondly, mirroring those findings reported by Armitage (1999) (and noted in Chapter Four), one member of group 18F(2) referred to her positive attitude towards cycling, but also the limitation of her choosing this form of transport due to the physical impact of doing so,

- …sometimes I cycle to my gym. I enjoy a good bike ride actually. In the summer I'll ride up to the Downs. But I don't do it if I'm going to college because there are quite a lot of hills and I'll just get sweaty.
(Group 18F(2) participant)

Thirdly, a member of group 11M(2) referred to the disruption caused by heavy traffic and parked cars on his journey while walking:

- …the point is that there are loads of cars. It's annoying coz it's like you can only get one car down the middle and you're trying to walk down the side and there's all these cars trying to pull out, pulling in, going into drives….it's takes forever.
(Group 11M(2) participants)

Lastly, several participants (across the age range) referred to their beliefs that distance limits the flexibility of walking with respect to the number and type of destinations they can access by this mode.

9.2.4. The impact of transport on health

All of the participants referred (to some extent) to their behavioural beliefs about health in relation to the transport modes available to them and in general it can be said that these beliefs related to two main issues. Firstly, a small number of participants illustrated their concern about the impact of transport-related air pollution on their health, typically referring to the problem of "breathing in" such pollution which they compared to smoking cigarettes. Secondly and more extensively, participants discussed the subject of obesity. For example, participants in group 15M(A) suggested peoples' use of the car discourages exercise and participants from group 18M(1) suggested that obesity is an escalating issue in society (especially for young people) due to the pursuit of convenience - which in turn includes use of the car and thus the promotion of sedentary lifestyles (as well as the risk of such lifestyles becoming the social norm):

- …I think the population in general is becoming fatter. It's been proven more people are becoming obese, especially children, because of their parents. I think it comes to the parents again. They don't force their children to exercise and they live in a society where cars are just the norm. …Whereas in the olden days you'd have to walk places so everyone was a lot fitter years ago. But these days people just sit at home and then get in their car and drive to work, sit there and then drive home again. That's why the population is becoming more obese and in a few years I think there's gonna be an epidemic. Loads of fat people everywhere.

(Group 18M(1) participant)

However, although the 11 yr-old participants referred to the health benefits of sport and other leisure pursuits (such as hiking with their family), only the 15 yr-old and 18 yr-old participants linked health with travel behaviour and only the latter group linked health with their own travel behaviour intentions (a link that was not made at all in relation to the health implications of transport-related air-pollution). For example, the participants in group 18M(1) commented on the potential role of the commute to work as a form of exercise:

- I think exercise is also portrayed as just sport and working out at the gym but it doesn't have to be does it? You can ride to work or walk to work and you're still getting exercise.
- That's what I was thinking about, like combining. Rather than driving to work and then going somewhere to exercise you could combine the two. Like your commute to work would be your exercise for the day or whatever.

(Group 18M(1) participants)

Another member of this group expressed his belief that "everyone knows" (i.e. that it is a socially held belief) that riding a bike is "better" than using the car due to the health benefits of doing so, as did participants in groups 18M(2) and 18F(2). However, a participant from the latter group believes that she does not need to think of walking and cycling in this way because she does other forms of exercise through sport:

> - I think if I didn't do sport then I would walk a lot more. But I think my sport makes up for me not walking.
> *(Group 18F(2) participant)*

Similarly, participants from groups 18M(1) and 18F(1) suggested a number of reasons why walking and cycling to school (or to work) as a form of exercise is not something they want, or are able to do[181]. The participants in group 18F(1) indicated that the health benefits of walking to school are not enough of an incentive to carry out this behaviour in reality:

> - I get up for school and I'm like, "Right, I'm gonna walk to school today just to keep fit". But then it's sort of turns out that I can actually have another half an hour in bed and I think yeah I'll have another half an hour instead *(laughs)*.
> *(Group 18F(1) participant)*

Further, when asked whether he would be prepared to cycle or walk to work from the perspective of improving his health and fitness, one member of group 18M(1) pointed to the problem of distance and another replied,

> - …I'd rather have, like, a separate time for travelling work and a separate time for exercise I wouldn't want to mix the two. I'd rather get to work as quickly as possible and get home as quickly as possible and then either go out and do some exercise rather than like walk to work or cycle.
> *(Group 18M(1) participant)*

Comparatively, the participants who stated that they currently cycle or walk to school did not refer to these as forms of exercise, thus it can be suggested that they also see this journey purely as a method of travelling to school, and not exercise - whereas the leisure pursuits and sports activities to which they referred are considered in this way.

In addition to the discussion of health directly, a number of participants singled out their belief that the car is a way to "save [physical] energy" with respect to travelling and it appears that this belief influences their positive attitude towards this mode. For example, a member of group 11F(2) indicated that there are occasions when she

[181] These reasons (or 'factors') also relate to the concept of perceived behavioural control (as discussed in Section 9.3) but are discussed here in the interests of continuity.

prefers travelling by car (in favour of walking) because "you don't have to do anything". Similarly, participants in group 15M(B) indicated that they have an underlying negative attitude towards walking due to the effort it requires and as a result a positive attitude towards the car. A member of group 18M(2) also suggested that his choice to use the car in favour of walking is a generational issue:

> - it's just convenience at the end of the day…coz we're the lazy generation. *(Group 18M(2)participant)*

Another member of group 18M(2) made a similar comment, stating that because he is lazy, he cannot "be bothered to" walk.

Considering the lack of motivation expressed by the participants in relation to using their journey to school or commute to work (now or in the future) as a chance to exercise via walking or cycling, it can be suggested that efforts to promote cycling and walking to young people as forms of exercise (such as Sustrans' "Active Travel" initiative[182]) would appear misguided. However, the tangibility of health issues and age would appear crucial here, in that the majority of participants considered they understand how to deal with issues of health and weight (i.e. eating well and exercising) but do not need to employ what they know as they consider themselves healthy. In this sense, it may be that the health benefits of cycling and walking would be successful when targeted at people older than these participants when health and weight concerns become more tangible.

9.2.5. Not having to drive

Perhaps one of the most important findings in relation to the participants' behavioural beliefs about driving was found when those able to drive commented that (on occasion) one incentive to use a mode of transport other than the car is that it means 'not having to drive'. For example, when group 18M(2) were asked if they could identify any benefits to walking, one driver replied,

[182] Although the applicability of this initiative is not restricted to young people.

- You don't have to get in the car and drive.
(Group 18M(2) participant)

Similar comments were made by participants in groups 18F(1) and 18F(2) in reference to the bus and the train:

- …you don't have to drive, that's the only good thing about the bus really.
(Group 18F(1) participant)

- Going on the train is good because…it's being able to just sit and not worry about driving isn't it really? And like you haven't got to put the pressure on someone else to drive. Like my Mum would drive or something, then she can have a break, so we'd both be relaxing.
(Group 18F(2) participant)

Similarly, despite revealing a positive attitude towards their typical car-journey experience, participants in group 18M(1) agreed that one advantage of using the bus is that it removes the need to drive, commenting that instead you can "read a book" or "fall asleep".

If such attitudes were found to be widely held amongst young drivers, this would appear to be a particularly important issue with respect to influencing people younger than the age of licence acquisition in terms of their desire to drive in the first place in that messages, highlighting the fact that some young drivers express negative beliefs about driving within only a year of gaining their licence, could be given to young people below the age of licence acquisition.

9.2.6. The journey experience – an emotional response

It was found that one of the most important factors affecting the participants' beliefs and attitudes towards transport modes was the journey experience and their emotional response to this. In turn, a number of different elements to this experience were highlighted by the participants, illustrating some of the important differences between *each* mode, as well as individuals' differing experiences of using the *same* mode.

9.2.6.1. Comfort and control

With respect to the car, there was an important discrepancy between the level of control and comfort felt by the participants able to drive and that felt by those who cannot. Mirroring Turner and Pilling's (1999) findings that 13-22 yr-olds consider the car comfortable and convenient (as noted in Chapter Four), and in contrast to comments in reference to the benefits of not driving (as noted above), the present study found that those participants able to drive had a positive attitude towards the comfort of travelling by car due to their beliefs that, by driving, they have control over the ability to 'personalise' the car-environment:

> - It's more personal coz you've got your own things in there…you can make it like your bedroom. You've got all stuff in there that you like, like music or smelly things or something.
> - Yeah. It becomes yours doesn't it? You don't have to worry about anyone else do you really?
> *(Group 18F(1) participants)*

> - It's a bit more comfortable, a bit more personalised… If you're in your own car, you can have your own music and atmosphere, like your own little space.
> *(Group 18M(1) participants)*

However, in contrast to those participants unable to drive in Pilling's (1999) study (i.e. the 13-17 yr-olds involved), the participants unable to drive in the present study referred to the lack of control they believe they have over the car journey experience as a passenger and expressed their negative attitudes towards this aspect of the car journey a result. As such, these participants referred to feelings of discomfort, boredom, loneliness, claustrophobia and annoyance at travelling with family members who disrupt the car-journey experience. For example, prompted by images of family members[183] taken from inside the car, participants from group 11F(2) illustrated an awareness of how (they feel) the car environment can change an individual's mood and behaviour:

[183] Which cannot be shown due to the issues of anonymity and confidentiality.

- Well I reckon the car like changes how you act…coz I get annoyed in the car, my Mum and my brothers do and it gets them really annoyed because they're like trapped.
- Yeah, it's claustrophobic.
- You can't just get out, or run or something, because some people like running like me…but like we're trapped in this little box thing so you can't and you go a bit mad.

(Group 11F(2) participants)

It also became clear that, despite one non-driver (in group 18F(2)) referring to the enjoyable and important social experiences she has when travelling with her mother in the car (with respect to spending time together), a number of other non-driers were less positive about this aspect of using the car. For example, one of the members of group 11F(2) indicated that she has a positive attitude towards walking rather than travelling by car, in part because she feels that in the car she misses out on personal interaction with her mother, something she can experience by walking instead:

- I actually walked home [from school] once, with my family, and I enjoyed myself so much because I got a proper talk with my Mum and stuff.

(Group 11F(2) participant)

One explanation for this may be that she normally travels in the back of the car with her brother (which she alluded to verbally and by way of her images), whereas the group 18F(2) participant (quoted above) illustrated that she travels in the front of the car with her mother. As such, the group 11F(2) participant is likely to have more difficulty interacting with her mother due to the physical restraint of a seatbelt (assuming she wears one) and the opposing nature of the seat between them. Comparably, the participants in group 15M(2) agreed that journeys in the car lack sociality because,

- …in the car, you can only take a certain number of people so it's not as fun.

(Group 15F(1) participant)

In addition to this, when discussing Photo 4 (below), all of the participants in group 11M(2) referred to their frustration at being in the car when caught in congested traffic

due to the boredom they feel - as did the participants in groups 15M(2) and 15F(2)[184]. Although this was expected to frustrate all car users and despite reference to congestion in all groups, similar comments were not made by the participants able to drive. In alleviating such feelings of boredom, members of group 15M(2) pointed to the importance of music, as did those in group 11F(2). However, the participants in the latter group also expressed their frustration at other members of their family taking control of the music played. Nonetheless, despite these negative comments, it is important to remember that both the drivers and non-drivers/passengers stated their intention to continue driving, or to learn to drive in the future. This suggests that, despite feeling frustrated at their lack of control over the journey experience in the car now, those unable to drive believe they will experience a higher level of control over this aspect of the journey once they can drive.

Photo 4: Taken by a group 11M(2) participant

With respect to the bus, similar findings were made to those reported by DHC (2003) who highlighted the tendency of primary aged children (5-11) to criticise the condition and cleanliness of this mode. In the present study, irrespective of age, the participants generally referred to negative experiences of travelling by bus and the lack of comfort (and control over this comfort) they feel as a result. For example, participants from group 11M(1) referred to their disgust at the used chewing gum they have found on bus seats; a member of group 15M(1) commented on his belief that travelling on buses with "horrible" interiors "just doesn't feel nice"; and participants in groups 18F(A) and 15F(B) pointed to their frustration at having no control over the type and volume of noise on a

[184] Importantly however, these participants did not appear to recognise that they are contributing to the congestion themselves.

bus. Further, participants in group 15F(1) described the bus as "ugly" and pointed to their feeling that it is,

> - …not the kind of place you want to spend a journey.
> *(Group 15F(1) participant)*

A member of group 15F(2) appeared genuinely saddened by the poor physical state of the buses she uses:

> - I got on one the other day…oh my god *(she says this quietly, while shaking her head).* There was loads of writing…it was just nasty *(continues shaking her head).*
> *(Group 15F(2) participant)*

It is also noteworthy that the other participants in this group were not surprised by this situation, as if they expect this of buses.

A number of participants also commented on their belief that travelling by bus leads to an inability to control who they travel with and a lack of comfort as a result - something the majority of participants dislike and several referred to as an incentive to choose the car instead. For example, participants from group 11F(2) highlighted their aversion to travelling in close proximity to other passengers (particularly those of an older age[185]), as well as the fear they occasionally feel when travelling at night with "gangs" of teenagers unknown to them:

> - I have to use it sometimes but I don't like it because other people are sat there. And like at night time, when you use it, there are these gangs of teenagers who are always sat at the back of buses.
> - You never know what could happen."
> *(Group 11F(2) participants)*

[185] For example, one participant stated, "I don't sit near old people really because their hair or their fluff off their hair gets on me *(she shudders with disgust, then laughs)*." This participant also revealed a positive attitude towards being driven in her own family's car in part because "other cars have got germs on".

Similarly, the participants in groups 15F(2) referred to feeling "awkward" when travelling next to people they do not know and their unwillingness to share their "personal space" in this context. A number of other participants referred to the specific types of passengers they particularly dislike travelling with. For example, the participants in group 18F(2) agreed that "screaming children" can act as a disincentive to use the bus and comparable comments were made by participants in groups 18F(1), 15M(2) and 18M(2):

> - If it's busy you haven't got a choice about who you're going to sit next to and you might get some kind of smelly homeless person which is grim *(she and the other participants laugh)*.
> - It is a point though isn't it? You don't really know who you'll be sitting next to. You've just got to sit there when I'd rather be sat on my own or with my mates.
> *(Group 18F(1) participants)*

> - They've always got a cold or a cough or…an irritating laugh or they sneeze *(laughs)*.
> - …fat people come and sit next to you and they take up all the room, that's really annoying that is.
> *(Group 18M(2) participants)*

> - You always have on a double decker bus, the people who sit right at the back, on the left hand side where the driver can't see you in the mirror, smoking, which I hate, just at that point where there's a blind spot. Everyone just sits in that blind spot to smoke. I've noticed that. It's really annoying.
> *(Group 15M(2) participant)*

These comments highlight an important issue with regards public transport, in that it is exactly that – a public space. In using it you are sharing it with other people who you may not know and you cannot predict (in terms of their physical state or behaviour) and this may lead to feelings of discomfort. This is an issue picked up by Stradling et al. (2007), who found that bus users not only feel anxiety in relation to their safety when waiting and/or travelling on the bus at night, but also disliked a number of aspects of the bus journey experience (including unventilated buses; other people sneezing, coughing, or smoking; crowded buses; and other people's loud personal stereos), which the authors term 'unwanted arousal'.

Stradling et al. (2007) also reports that a number of their participants enjoyed social interaction with other bus users. Comparatively, the present study found that only one participant considered this a positive attribute to this mode. As such, a member of group 18M(1) referred to his belief that travelling by bus with those unknown to you is an opportunity to meet new people, something he does not consider possible via the car:

> - …if you're on a bus, you meet random strangers and talk to them, because in a car you're all secluded.
> *(Group 18M(1)participant)*

Despite being the only participant to express such a belief in relation to *public* buses, a number of other participants expressed similar beliefs in relation to the sociality of travelling by *coach.* In this case socialising referred to that with friends and/or family – for example participants in groups 18F(1) and 18M(1) referred to the "fun" experiences of school excursions by coach and members of groups 11M(2), 18M(1) and 18M(2) enjoy travelling by this mode because they are with friends, but on a public bus they are not[186].

Further to these comments, a member of group 15F(1) explained that she considers the bus a suitable method of travelling independently of her parents, but the *experience* of using this mode may counterbalance this benefit:

> - …if you're in the car, you have your parents which is annoying. …And if you're on the bus, you've got your independence…but it's also scabby.
> *(Group 15F(1) participant)*

This comment also highlights that a given behaviour choice can be based on beliefs relating to difference aspects (e.g. speed, comfort) of that mode. Thus, in the context of influencing the travel behaviour intentions of this participant individually (i.e. retain her as a bus user even when she gains the ability to drive), bus companies would need to target both her positive attitude towards gaining independence from her parents via

[186] In addition to these comments, Group 11M(2) participants pointed to their preference for the interior environment of the coach in comparison to the bus, one member referring to the coach as feeling "less scabby" and another commenting that the coach feels more "luxurious".

use of the bus and her negative attitude towards the "scabby" image she associates with it.

Similarly, although participants in group 18M(1) noted the poor physical state of the buses they use, they also claimed that they are less concerned about this than they are about the bus being cheap and reliable:

> - They're just…getting you somewhere. It's the same with cars for teenagers. Nobody really has the most amazing cars in their teenage years, you just want to get where you want to go.
> *(Group 18M(1) participant)*

For this participant, with respect to the promotion of the bus, it is the destination he wants rather than the journey. However, whether he would feel the same way once he can drive (and therefore personalise his own travel environment) remains to be seen. These comments also illustrate the complexity of identifying which aspects of this mode should be focused upon first in related promotion.

Nonetheless, with such bus-company policy in mind, despite seeing the bus environment in a somewhat negative light, participants suggested methods to improve the journey experience via changes to the physical state of the bus, particularly the interior. However, a number also illustrated a lack of faith that these ideas would work[187], and there was substantial variation in the participants' opinion of what these changes should look like. For example, several groups discussed improving the bus interior via music, cleanliness, colour changes and new seat fabric, but could not agree on the nature of these. In contrast however, issues including the 'dirtiness' of the bus and difficulties with drivers, as well as the irregularity and expensiveness of this mode (and negative image the participants associate with it, as discussed later in this chapter), appeared relatively universal in that the majority of participants agreed that these influence their generally negative attitudes towards it. In this sense it would appear that there is less 'grey area' in relation to these issues and it is therefore suggested that they should be targeted first.

[187] For example, one member of group 15M(2) stated, "…it's like what's the point in making them look nice, they'll just get trashed again."

In contrast to this, the participants displayed generally positive attitudes towards the train and several (including members of groups 18F(1), 18M(1) and 18F(2)) referring to travelling by this mode as "fun". Participants in group 18F(2) also referred to the train as being "exciting" and enjoyable because "you can see the views". Participants in group 15M(2) referred to the journey by train as being "smoother" and "calmer" than other forms of transport and the members of group 15M(1) commented that the train "looks better and feels cleaner" than the bus and that "there's more space", "and they're nicer".

Although few in number, comments in response to the participants experience of other passengers while using the train suggest that this is another factor influencing their positive attitude the comfort of travelling by this mode (contrasting with their attitudes towards this factor in relation to the bus). For example, a member of group 15M(1) commented,

> - …on buses there are always kids messing about…on the train there are only adults.
> *(Group 15M(1) participant)*

In addition, participants in group 15M(1) indicated that they are usually travelling with friends and undertaking a social activity when using the train, which may, to some extent, explain why they prefer the train to the bus.

However, it is important to note that the majority of the participants do not use the train regularly, if they have used it at all. As such, it may be the novelty of using this mode (both in relation to the rarity of using it, and their tendency to use it for 'special occasions') that also influences their positive attitude towards it. For example, members of groups 18M(2) and 18F(2) noted the difference between the everyday use of the bus and less regular use of the train,

> - …if you're on a train it's usually for a day trip, so it's more fun.
> - Yeah you don't do it very often, like a plane. Everyone's, like, really excited to go on a plane."
> *(Group 18M(2) participants)*

- …it's just different I think… it's just like, you're normally in the car all the time, or the bus, and it's just nice to do something different.
(Group 18F(2) participant)

In addition, it can be suggested that their lack of experience in using the train (in comparison to their extensive use of the car and bus) means that these participants have had less chance to experience the negative attributes to using this mode, such as delayed or cancelled services or the inability to find a seat. In contrast, the majority of participants have used the bus and therefore have had more opportunity to experience the negative aspects of using it – thus the novelty of its use has been lost. Therefore a question that may be targeted in future research is whether these participants begin to associate the train with more negative attributes in the future if they use it more regularly – an issue recognised by a member of group 18F(1). This participant explained she has a positive attitude towards the train and intends to use it when she goes to university, but also realises that she may no longer consider it "fun" if she used it every day.

In relation to cycling it was noted in Chapter Four that Turner and Pilling (1999) found 13-22 yr-olds consider cycling good for the environment, but otherwise unattractive. With respect to the present study, the link between cycling and the environment will be discussed in Chapter Ten, but here it can be said that in adding to Turner and Pilling's findings, one member of group 18M(2) referred to his discomfort when cycling and anger at the behaviour of other road users when he is cycling on the road,

- Car drivers are annoying…if you're on a bike and if they're in a traffic jam, and it's a red light so they're not going to go any faster or slower by slowing down, they still won't let you go past. That angers me. And then it causes the bike people to push out in front of the car so it's got to stop. And that's how accidents happen and road rage kicks in, and it's just not needed.
(Group 18M(2) participant)

The degree to which such behaviour acts as a control factor on the cycling behaviour of the participants is discussed in Section 9.4.2..

Overall, it has been found that comfort and control act as influencing factors on the participants' generally negative attitude towards the bus, cycling and the car (in the

latter case due to the lack of ability of a number of participants to control the car environment or interact with the driver if travelling *as a passenger*), but their positive attitude towards the train, walking and the car (in the latter case due to the ability of a number of participants to manipulate the car environment *as a driver*). In this sense, despite the participants recognising the comfort and control over their journey experience they may enjoy when using the train or when walking, the comfort and control they currently, or expect to, experience via the car as a driver part explains why they intend to move away from these more environmentally friendly modes towards continued or intended use of the car in the future.

9.2.6.2. A sense of freedom, a desire for speed and a desire for traffic

Further to the participants' attitudes towards the comfort and control they feel over various aspects of the journey experience, participants in group 18M(1) also referred to the feeling of freedom they feel when using the car, in comparison to the lack of freedom they feel when using the bus:

> - On the bus you feel confined to wherever it's going, but in the car you have freedom. If you have a car you can go anywhere in the UK. So you're kind of less confined.
> *(Group 18M(1) participant)*

Two participants in group 18F(1) revealed similar sentiments but also expressed their belief that it is an individual's ownership of the car and the personalised travel this provides (in comparison to the shared experience of travelling by bus), rather than solely the ability to drive, that leads to a sense of freedom:

> - **Why is it *(the car)* better?**
> - Because it's yours. It's like…you own it. *(Participant A)*
> - Yeah, you have to share a bus with loads of people. And like on the bus journey you have to go where everyone else wants to go before you get to where you want to go, instead of just driving straight there. *(Participant B)*
> - It's like the car gives you freedom doesn't it? *(Participant A)*
> *(Group 18F(1) participants, moderator in bold)*

These comments reiterate those of Sheller and Urry (2000) who refer to the 'automobility' of society via people dwelling in and social interacting through their cars,

> "Automobility (in some respects) is a source of freedom, the 'freedom of the road'. It's flexibility enables the car-driver to travel at speed, at any time, in any direction along the complex road systems of western societies that link together most houses, workplaces and leisure sites." (Sheller and Urry, 2000)

Similar to the findings reported by Goodwin (1995) (as discussed in Chapter Four) in relation to the "emotional arousal" of driving at speed and the car as a "powerful form of physical energy", several participants also revealed an attraction to the sensation of speed they believe the car could provide them, including those in groups 11M(2), 18F(2) and 18M(1). One of the participants from the former group also referred to his belief that his father's tendency to drive at speed is something to admire. The thrill of driving is discussed further by Featherstone (2004), who refers to the prominence of the "quest to attain high speeds" since the early days of the automobile,

> **"**From these early beginnings there has been a constant quest for increased automobile speed and the demonstration of driving skills in a series of public events which have consistently drawn in the crowds and media coverage… This process has culminated in the Formula One Grand Prix races which attract massive crowds around the world and are present as global television spectacles. Speed has been described as 'the mechanical soul of modernity'" (Featherstone, 2004)

This is also an important attitude with respect to risk-taking behaviour and the potential dangers of driving. For example, Corbett (2003) reported that young male drivers seem particularly motivated to commit speeding offences due to the intrinsic enjoyment of fast driving.

Further to this, a particularly important issue arose when talking about the car in that a small number of participants either expressed a positive attitude towards the volume of traffic on the roads where they live, or a desire for heavier traffic in this context. For instance, a member of group 11M(2) explained that he lives on a road where "there isn't much traffic" and wishes he lived on a busier main road:

- I'd like living on main roads…I feel like I'm trapped inside my house and there's nothing going on outside.

(Group 11M(2) participant)

It would appear that this participant sees traffic as a sign of life and activity[188]. Mirroring this idea, participants from group 15M(2) commented that congested traffic in urban areas is "just background noise isn't it?" and one member of this group suggested that such noise is "part of everyday life". In this sense it would appear that these participants have been conditioned to accept the noise of traffic (due to the volume of vehicles on modern roads) and to see it as a symbol of life. In addition however, both participants also express an emotional link to this noise by claiming they would miss it is if was not there - pointing to something deeper than just being 'used to' the sound of traffic:

- Without the noise I think it would be weird.
- Yeah, everything would just seem empty without the noise of a car.

(Group 15M(2) participants)

Overall this finding presents an important explanation for the participants' positive attitude towards the car and their intention to continue driving or learn in the future.

9.3. Social beliefs (social norms, image, self-identity and role identity)

9.3.1. Introduction

As explained in Chapter Three, an important distinction can be made between social norms (which are based on an individual's normative beliefs about the expectations of others), self-identity and image (which relate to an individual's beliefs about the way they want society to view them) and role-identity (which relates to an individual's beliefs

[188] However, it is important to note that this is in contrast to the beliefs of another member of this group who put his head in his hands as if in despair when hearing this comment - replying, "But you can play football in the street, I can't…if I try to go out in the street and play football, I'll just get run over." It therefore appears that he, in contrast to the previous participant, sees heavy traffic where he lives as a hindrance to life and activity.

about the way they see themselves fulfilling a given role in society). Therefore this section provides an account of the influence of these factors on the attitudes of the participants towards transport modes, attending to each factor individually. Through this discussion it becomes clear that their emotional response to these modes is a key factor with respect to the participants' intention to move away from more environmentally friendly modes (with the exception of the train for a limited number of participants) towards the car, thus reiterating the importance of this dimension of attitudes and beliefs as highlighted in Chapter Three.

9.3.2. Image and self-identity

9.3.2.1. The car

In relation to the car it was found that the majority of participants (irrespective of age and gender) considered ownership or use of this mode can impact on a person's image and this strongly influences their attitudes towards and desire to drive and own a car (in the future or currently). Therefore these findings support those reported by Turner and Pilling (1999) (referred to in Chapter Four), who found that 12-23 year olds consider image "a major factor" in the decision to own a car or to drive. A similar finding was made by DHC (2003) who reported that a proportion of young people prefer travelling by car because it "looks better" than other more environmentally friendly modes.

In the present study, a number of the participants responded to the images of the car (either those provided or their own) through comments and body language similar to a person in love – something that did not occur in response to any of the other modes of transport discussed, or their associated images. For example, the participants in group 18M(1) became wide-eyed when presented with images 2.1-2.3 - pointing to them, rubbing their hands together and smiling. When faced with the same images, a member of group (18F(1) sat forward, lifted her eyebrows, smiled and slowly mouthed "wow". Similarly, a participant in group 11M(2) spoke about cars with his eyes closed, smiling and hugging himself.

A number of factors appeared to influence these positive responses to the image of the car as well as those expressed (but to a lesser extent) by other participants in the

study. Firstly a number of participants pointed to the importance of the aesthetics of the car. For example, participants in group 15F(1) explained that they are attracted to the "looks" of a car even if they do not know what make or model it is. A member of group 15M(1) referred to his belief, while tracing the outline of the car depicted in image 3 with his finger, that he is attracted to the "curved edges" of cars - a comment (and action) that can be linked to similar findings reported by Goodwin (1995) (as noted in Chapter Four) and Sheller's (2004) comments that the car can become an object of desire through its design:

> "Touching the metal bodywork, fingering the upholstery, caressing its curves…suggests the conjuring of human and mechanical bodies. …Whether phallic or feminised, the car materialises personality and takes part in the ego-formation of the owner or driver as competent, powerful, able and sexually desirable." (Sheller, 2003)

Car branding was also highlighted as an influencing factor, with the majority of participants (irrespective of age and gender) able to identify a variety of these. In response to his photo (Photo 5, page 214), one member of group 11M(2) even claimed that a car's brand is the *only* reason a person would express a positive attitude towards the car and similarly, all of the participants in group 11M(2) suggested that the image they portray via the make and model of the car they own (or will own in the future) is as important, or even more important, than the ability to drive,

> - **…is it actually driving or the car that you want?**
> - It depends, because it might be a Ford Focus!
> - Yeah, it does depend what car you've got.
>
> *(Group 11M(2) participants, moderator in bold)*

Providing further example, a member of group 18M(2) referred to Volkswagen camper vans in relation to the importance of 'surf-culture' with respect to his own self-identity, the image he would like to portray to others and the car he wants to own as a consequence of this. Participants in group 11F(2) referred to their positive attitudes towards limousines due to their belief that owning such a car would provide an image of wealth and high social standing:

- Limousines, they're like a really special thing for like if you're posh or you have lots of money. That's why I want to have one of them.
(Group 11F(2) participant)

Photo 5: taken by a group 11M(2) participant

The link between cars and financial status was also referred to by participants in group 15F(1) who associated images 2.1-2.3 to drivers with a high degree of monetary wealth. In doing so they described image 2.3 as a "dream car", "amazing" and the type of car that would belong to "rich people". They also referred to the image they believe such a car would provide the driver:

- …if you saw someone in that black car (*pointing to image 2.3*) and someone in that white van (*pointing to 2.5*) next to it you'd think "ooo…guess who's got the money out of them two?". *(Participant A)*
- Yeah totally. *(Participant B)*
- Coz you'd just automatically think that wouldn't you? By looking at the car (*The other participants nod*). *(Participant C)*
(Group 15F(1) participants)

Further, the participants in group 18F(1) suggested that the car you own can act as a symbol of power, mirroring those findings reported by Goodwin (1995) (as noted in Chapter Four):

- Cars are way to show off how much money you've got really. *(Participant A)*
- Yeah totally. *(Participant B)*
- A symbol of power. *(Participant C)*
(Group 18F(1) participants)

In this sense not only is it noteworthy (with respect to attempting to change the attitudes of young people towards the car) that these participants consider the car acts as symbol of financial status, but also that they consider money (and an expensive car) to be the basis of power *and* that they refer to the ability to "show off" about your financial status and power via the car you own in a positive light.

Participants in groups 15F(2) and 15M(1) also referred to the types of cars they would *not* like to drive due to the negative image they believe they would portray to others by doing so:

- …driving a clapped out banger would be embarrassing!
(Group 15F(2) participant)

- …you wouldn't look good if you drove around in a car like that white one *(pointing to image 2.5)*.
(Group 15M(1) participant)

Further, a number of other participants in Wave 1 referred to the negative image they associated with cars such as those depicted in image 2.5, in contrast to the positive image they associated with the marketing images (2.1-2.3). Such comments highlight the success of this form of car marketing in that, although images 2.1. – 2.3 are not based in reality (in that the cars depicted are immaculate, driving along a clear road in a perfect setting) and instead create a desire based on fantasy, these participants in Wave 1 view them in a positive light.

In addition to this, the participants in group 11F(1) associate an issue of gender with society's enthusiasm about the car. They proposed that such interest is associated with males in particular, while at the same time making these comments in a tone suggesting they do not want to be linked with this 'image' – perhaps because it would mean associating themselves with (what they believe to be) a 'male' characteristic.

- Cars? (She rolls her eyes)...that's sort of my brother's department.

- My brothers think about them all the time but I don't.

(Group 11F(1) participants)

Similarly a member of group 18F(1) suggested that it is "mainly male drivers" that are interested in "the car itself" and the participants in group 18F(2) agreed that "girls love little cars", and "boys love the fast, mean cars."

A number of the participants also linked their self-identity in becoming an adult with the ability to drive (and therefore their positive attitude towards the car) in that they see driving as an important sign of growing up, reflecting those findings made by Turner and Pilling (1999) and Mackay (1997):

> - It's kind of like "ooo I have my own life look at me!"
> - Yeah, it's cool.
> - Yeah it's like a mile-stone in teenage life isn't it? Learning to drive and having your own car. Just like everyone does it when they're seventeen (*all of the other participants nod and agree)*.
>
> *(Group 15F(1) participants)*

A similar idea was voiced in group 18M(1) although here one of the participants suggested that learning to drive is something a person has to do because "you're supposed to" – justifying his own desire to drive (he already has his licence) while also referring to what he believes to be an important social norm[189]. Participants in Group 15M(1) referred to a similar social norm, agreeing that there is an important life-stage with regards the transport behaviour of young people once they approach the age of licence acquisition:

> - You just get lifts in the sixth form, coz your friends can drive or you can.
>
> *(Group 15M(1)participant)*

This is an important belief in that they appear to see choosing the car (once this is possible) as the natural course of behaviour for young people. But could this belief be changed through school travel plan initiatives (of which none of the schools involved have implemented), such as banning parking in and around the school? The only indication that the schools attempted to influence the travel behaviour of the students was revealed in the discussion with group 15M(1), where it was explained that the participants in Wave 1 (all of whom attended School A) take part in the annual National

[189] Although social norms are considered separately in Section 9.2.3., these particular social norms are highlighted here in favour of clarity and continuity in discussion.

Walking Day. However the same participants were less than enthusiastic about this event suggesting that it is unlikely to have an impact on their long-term behaviour.

Participants in group 15F(1) also suggested that peer pressure, and their self-identity with respect to the opinion of their peers, are influencing factors in relation to the social pressure they feel to own a "nice" car. They suggest that owning such a car is important due to the increased social status they believe it will provide them - something they feel more pressure to achieve than pass their driving test. They also referred to feelings of inferiority at not having enough money to buy a suitable car:

> - There's not so much pressure to do your driving test or whatever, it's more what car you have afterwards *(the other participants nod)*. Like some people, their parents will buy them a car and it would be a really nice car and you'd get a….third hand kind of car and then… *(Participant A)*
> - …you'd have to pay for it yourself. *(Participant B)*
> - …yeah pay for it and your insurance and they get everything paid for them and there's just that kind of pressure. *(Participant A)*
> - Like to live up to their car really*. (Participant C)*
> - Yeah and you like to think ooo I'm as good as them, but they've got a better car than me, just because their mum's rich. *(Participant A)*
>
> *(Group 15F(1) participants)*

9.3.2.2. The bus

The main comments made in relation to the bus were in reference to the social norms the participants associated with this mode, as presented in Section 9.3.3. below. However, in relation to the image the participants associate with the bus, which in turn relates to the image they believe a person would associate with themselves by using this mode, their comments were generally negative. For example, in response to the introductory task used in Wave 1[190] and throughout the discussion groups in both waves, the typical words the participants associated with the image of the bus included "grotty" *(group 11M(1) participant)*, "scabby" *(group 15F(1) participant), "*messy" *(group 18F(1) participant), "*smelly" *(group 18M(1) participant),* and "ugly" *(group 15M(1)*

[190] Where the participants were asked to spend some time considering images 1.1 and 1.2 and to write down some words or phrases they associated with them.

participant). Further to this, a member of group 18M(2) referred to the negative image he associates with using the bus and thus the importance of this with respect to his own self-identity,

> - Well they're pretty lame aren't they *(laughs)*, "ha you're on a bus, you're a sad weirdo".
> *(Group 18M(2) participant)*

9.3.2.3. The train

In contrast to comments made in reference to the image of the bus, the participants' response(s) to images of the train were generally positive (although fewer in number) – thus supporting the findings made by DHC (2003) who reported that 11-16 yr-olds consider the car and the train to have the most "cool/trendy" image (with respect to all forms of transport, excluding air-travel). For example the participants in groups 11M(2) and 15M(1) were visibly excited by the images of the train presented to them (which for the latter group was image 7.5 and for the former group Photo 6, page 219), a number of them describing trains as "cool" or "wicked". The participants in group 18F(2)) also referred to the train as being "better than the bus" due to their belief that the train is superior in terms of the image it projects:

> - The train I suppose is a bit…
> - …it's more posh! I think…
> - Yeah, the design's more posh than the bus.
> - …more upper class!
> *(Group 18F(2) participants)*

Similarly, a member of group 18M(2) referred to the train as "more classy" than the bus and a group 15M(A) participant described train passengers as "posh people". In this sense these participants may also be influenced by their self-identity in that they would prefer to be seen on a train than on the bus where they would project a more desirable image (in relation to their social standing) to other people.

Photo 6: Taken by a group 11M(2) participant

9.3.2.4. Cycling

In addition to DHC's (2003) discovery that image is relevant to young people's decision not to cycle because their bike is "not cool enough" (as noted in Chapter Four), findings made by the present study in part support those of Lee and Mann (2003) (also noted in Chapter Four) in that a number of participants commented in a negative light on the image of wearing a protective helmet. Although this issue does not appear to have led to the participants developing a negative attitude towards cycling, it has impacted on their attitude towards cycle safety and in turn their attitude towards cycling on the road - which are considered key issues in relation to the promotion of cycling and cycle safety.

Participants in group 15F(2) initially indicated that the image they project when cycling is not important in relation to their attitudes towards this mode, claiming that its practical use as a form of transport is more important:

> - …even though people say "oh I'm not riding my bike" because of like what other people say when they see you…I couldn't really care less *(the other participants nod in agreement)*…because it's just a way of getting somewhere" *(Group 15F(2) participant)*

However later in their discussion, when talking about safety in relation to cycling, it became clear that these participants *are* concerned about the image they project when wearing a cycle helmet, suggesting that they used a degree of impression management or cognitive dissonance in their initial comments (and highlighting the

importance of further probing by the moderator). Similar comments were made by members of group 15M(2):

- I have to wear a helmet (she and the other participants laugh and look embarrassed). (Participant A)
- **Do you not want to wear a helmet?**
- It's just embarrassing wearing one of them. *(Participant B)*
- **Why is it embarrassing?**
- It looks quite lame. *(All of the participants start laughing) (Participant A)*

(Group 15F(2) participants, moderator in bold)

- **So if you had to wear a cycle helmet by law, what would you think about that?**
- Get one that looks good isn't it? *(Participant A)*
- Yeah. *(Participant B)*
- **Is that an issue then?**
- Yeah, you would look crap. *(Participant C)*

(Group 15M(2) participants, moderator in bold)

As such, it is suggested that image takes precedent over safety for these participants, as it also appears to be for one member of group 11M(2) who explained that although he is not concerned about wearing his current helmet because it is "cool", if he had a "rubbish" helmet he would not wear it but would continue cycling. In this sense, these comments link to those findings noted in Chapter Four with regards the risk-taking behaviour of young people (Williams, 2007). In addition, although it cannot be said that these participants' attitudes are influenced by peer pressure (the importance of which is highlighted by Christenson and Morrongiello (1997)), the participants in group 15M(2) did appear to encourage each other with regards claiming they do not need to wear a helmet (despite the dangers of this):

- When you're a cyclist you wear them all the time, but when you're not, you just don't really need to wear it do you? *(Participant A)*
- Yeah, coz you know yourself you're not going to be harmed isn't it? You're not going to. *(Participant B)*
- Yeah right. *(Participant C)*

(Group 15M(2) participants)

In contrast, although one member of group 11F(2) stated that she believes cycle-safety equipment is "disgusting", in response to this she chooses not to cycle at all. It is postulated here that this may reflect gender differences in attitudes towards high risk behaviour. Also in relation to gender, the participants from group 15F(2) agreed that "BMXing" is not something that girls are as interested in as boys (including themselves). Again, these comments were also made in a tone suggesting they do not want to be linked with such a male image[191].

Beyond concerns about the image of safety equipment, a participant from group 18F(B) referred to her dislike of cycling due to the conflict she perceives there to be between her own image and that she associates with cycling,

> - I'm unfit (dry laugh)…and I don't like my image so I just think that people will look at me and laugh at me. That's just how I feel, so I would rather walk." *(Group 18F(2) participant)*

In this case it would appear that this participant is influenced by what she believes to be the social norm with regards the 'type' of person society believes can acceptably cycle. This is particularly important with respect to encouraging society to cycle as part of a healthy lifestyle and/or to improve body-image - in that a negative body image is what prevents this participant from using this mode in the first place.

9.3.3. Social norms

9.3.3.1. The car

It became clear that a number of participants' beliefs about the types of car it is 'acceptable' to drive influence their positive or negative attitudes towards individual types of car as well 'the car' in general. In this sense these beliefs are, in several cases, closely linked to their awareness of car-branding[192]. Even at age 11, the

[191] In addition, the findings of the present study would appear to support this idea in that it was only the male participants who referred to their enjoyment of this type of cycling.
[192] This awareness of branding is also likely to be associated with car-marketing (as discussed in Chapter Eight), although it is recognised that they may not be conscious of this.

participants have developed strong opinions about what is 'acceptable' in terms of the car they own and the image they portray:

- I mean I wouldn't like to drive a car that wasn't very nice. *(Participant A)*
- **Why?**
- Because people look at you and go *(he pulls a disgusted facial expression).* *(Participant B)*
- Yeah, or kids go "mummy look, it's an old car!" *(Participant C)*

(Group 11M(2) participants)

Participants in groups 15M(2) and 18M(1) also referred to those types of car it is socially *un*acceptable to be associated with - linking these to the stereotypical drivers they associate with each car on the basis of their beliefs about body-image, age and culture:

- Bentley guys are small *(laughs)*…Ford for falling arse, what is it…Ferraris for bald people, er, what else is there, Lamborghinis are always old guys as well, like with really nice cars, they're always old or bald.
- What about boy-racers that get the most crappy cars and do them up? They think they look good, but the car's still rubbish underneath.

(Group 15M(2) participants)

- Well, you've got boy-racers…
- *(Interrupting)*…yeah, who buy old cars and do them up, then old rich people who buy flash expensive cars coz they're sad, down to average people who just drive boring cars like that *(pointing to image 2.5)*.

(Group 18M(1) participants)

In relation to what *they* consider to be unacceptable travel behaviour, participants from group 15M(2) commented that they would expect the driver of the type of car depicted in Photo 7 (page 223) to be a mother driving her children - a belief also held by participants in group 18F(B) who considered such cars to be "dangerous", "polluting" and "pointlessly large" when all they carry is a mother and her child (a response prompted by this participant's collection of newspaper car-adverts shown in Picture 1, p 223).

Photo 7: Taken by a group 15M(2) participant

Picture 1: Collected by a group 18F(1) participant

9.3.3.2. The bus

In relation to the social norms the participants associate with the bus, the majority of the participants expressed their belief that the bus is used only by "old people" and "young people", in that these are the only segments of the population that cannot drive (and therefore have no other option but to use the bus) and can obtain discounts. In this sense they indicated that these would be the only reasonable excuses for using the bus, otherwise you would drive:

> - Mainly old people and teenagers who can't drive yet are the only people who use buses I think.
>
> - …even though there's the bus…everyone would use a car over a bus if they had the option.
>
> *(Group 18M(1) participants)*

However members of group 18M(2) suggested that if the cost of the bus was less or if they were free, everyone would use it and "so it would be alright" for them to use it too, in that this behaviour would become the social norm. As such, it is suggested that the implementation of 'hard' policy measures aimed at reducing the cost of the bus may in turn influence these participants' attitudes towards this mode - something that is usually the focus of softer measures, as explained in Chapter Two.

In addition to this, there was some debate as to whether using the bus is considered acceptable behaviour amongst young people. A member of group 15M(2) referred to what he considered to be a widely held belief (and therefore a social norm) that all young people "like cars" and "don't like buses", which could affect his own negative attitude towards the bus in that he believes he is fitting in with the social norm by thinking in this way. In contrast however, despite referring to their negative beliefs about the physical state of the bus, the participants in group 15F(B) explained that they are unconcerned about using it because they believe this behaviour *does* fit in with the social norms of their peer group:

- **Would you ever have the mick taken out of you for going on the bus?**
- No.
- No coz loads of people our age go on the bus.

(Group 15F(2) participants, moderator in bold)

However, the question remains as to how they will feel and behave towards the bus in the future once their age, and the social norm they link with this, no longer applies? Will they continue to view it in a negative light but no longer have the excuse of age to remove their concern about using it? Would they go against social norm? These are questions that could shape future research.

It also appears that for some of the participants, negative beliefs and experiences in relation to bus drivers, and what they consider to be the social norm in this context, can act as a negative influence on their attitudes towards this mode (reflecting those findings made by DETR (1999) noted in Chapter Four). For example, a member of group 11M(2) explained,

- A public bus driver actually tried to carry on when there was this mother, one child had got off, she was getting her pram out, the other child was holding on

> to her hand, she got the pram and the bus driver closed the doors. She was trying to get through all these year sevens, year eights, she was like "excuse me can you open the doors, can you open the doors", and then they closed the doors again. He started swearing at her afterwards because she was taking so long. It's not her fault that half of the year sevens dumped their bags on top of her pram.
> *(Group 11M(2) participant)*

In addition, the participants in groups 11M(2) and 15F(1) laughed as they referred to stories of their bus driver being unsure of the route he was taking and others not trusting that they should pay a child's fare. Although said in humour, these comments may be significant in terms of the image the participants have both of the bus and themselves as bus-users. If they do not want to be seen by society as using a mode of transport that can be deemed a joke it can be assumed that they are unlikely to use it.

9.3.3.3. The train

Although only referred to by one participant, it is still considered of importance that a member of group 18M(2) suggested his positive attitude towards the train is influenced by (what he believes to be) the social norm with respect to this mode:

> - …a lot of people like going on trains don't they?
> *(Group 18M(2)participant)*

This comment, together with those in reference to the participants' belief that the train is more 'classy' or 'more posh' than the bus, suggest that these participants are more likely to use the train in that they will be both 'fitting in' with the social norm and portraying an image of higher social standing than those people travelling by bus.

9.3.4. Role identity

In addition to self-identity, the present study also found that role-identity influences the participants' positive attitude towards being able to drive. In light of this, a number of

participants referred to driving as an important responsibility as a member of their family. For example, participants from group 18F(2) referred to the shift in family dynamic caused by their ability to drive - whereby the children of the family begin transporting the parents. Similarly a member of group 18M(2) spoke of the pressure he feels to drive for the same reasons:

> - I don't really want to but everyone, like my Mum, wants me to drive so I can drive her round. And so I don't really want to do it for myself but I think I should for like, others…my Mum and that.
> *(Group 18M(2) participant)*

However while this participant displayed a sense of resentment at having to learn to drive in order to help his family, the participant from group 18F(2) appeared positive about this role, as did another member of this group - who from the positive tone in which she spoke (as well as her body language) appears to enjoy driving her Sister to the places she needs to access:

> - I knew how much I relied on my Mum and Dad to take me places so now I just think "well they want to have a night in tonight so I'll just take myself." I also take my Sister places so instead of them having to worry about "oh right well we'll go here and take [*her sister*] blah blah blah", I can just take all that burden off them and just take my Sister *(she sits up and pats herself on the shoulder - she and the other participants laugh)*.
> *(Group 18F(2) participant)*

In addition to this, the drivers with access to a car in group 18F(2) spoke of the role they play as a driver in their peer group. It appears they believe the ability to drive is an important issue in this context, not only in terms of 'fitting in' with the behaviour of their friends, but also in sharing the responsibility of accessing the activities they enjoy as a group:

> - …me and my friends share lifts to school in the mornings. Now our friends, all of our group have actually passed, we take it in turns to drive places, or we just go in convoy everywhere[193]. We share everything.
>
> - …I was one of the first to pass and it's like exciting and so all your friends are like "yey!" But I find it fine, but it's just like for people, like some of our friends who haven't got much money so they can't afford the petrol, I think it's more difficult for them, especially if we're all relying on them to give us lifts.
>
> *(Group 18F(2) participants)*

Overall it can be said that the importance of these role-beliefs about the car, together with those in relation to self-identity and image, stretch beyond these factors in that they link to materialistic values – which, as explained in Chapter Three, transcend attitudes and beliefs. Dittmar (2004) discusses the prevalence of materialistic values amongst young people and defines them as,

> "…a 'set of centrally held beliefs about the importance of [material] possessions in one's life' (Richins & Dawson, 1992; cited in Dittmar, 2004). Thus, when materialistic values are important – or central – to a person, they lead to a strong commitment to identity construction through material goods. They are characterised by three key beliefs that material goods are: a central life goal; the main route to identity, success and happiness; and the yardstick for evaluating self and others." (Dittmar, 2004)

This appears to fit closely to the comments made by the participants (as presented above) in that they have illustrated that the car, as a material good, is capable of providing them with an identity of adult status, success, financial status and power, as well as a sense of purpose with respect to roles they play as a driver in their family and peer group. As a result, these beliefs contribute to the participants' desire to drive and own a car (currently or in the future).

[193] It is important to note that they did not appear to see anything wrong in their choice to drive in separate cars to a destination in relation to the environmental impact of this behaviour. In this sense, the role driving plays within their friendship group would appear to be more important.

Of particular importance to this thesis, it can be said that materialistic values strike directly against those in relation to 'protecting the environment' in that a desire for material goods leads to increases in pollution, waste and the use of energy, via the production and disposal of such goods – the car being, in-part, one of these. Further, Dittmar (2004) points out that,

> "…from a developmental perspective, it is likely that part of the reason teenagers are so engaged with brands and identity has to do with their stage of personal development, which is characterised by a real drive towards forming a new identity." (Dittmar, 2004)

In this sense it can be suggested that young people are more likely to hold materialistic values. As noted in Chapter Three, the importance of identity (and 'ego') usually subsides as young people get older (although it still remains an important factor) and this may partly explain why older people have been found to display higher levels of environmentally friendly behaviour (Van Liere and Dunlap, 1980; Schann and Holzer, 1990; Scott and Willits, 1994; all cited in Diamantopoulos et al., 2003). According to Diamantopoulos et al (2003), young people are likely to state that they will commit more resources to protecting the environment in the future but do not currently have the "financial security" to support environmental causes. In doing so it is therefore suggested here that young people may 'off-set' the responsibility of environmental protection (using the 'excuse' of financial insecurity) due to the 'superiority' of the importance of material goods in their value system. In this sense, they may claim that they intend to protect the environment in the future, in order to 'save face' (i.e. they use impression management in order to portray an image of caring about the environment), while enjoying material goods in the present.

Although it could be assumed their behaviour will become more environmentally friendly as they get older, Dittmar (2004) suggests that due to the relatively recent increase and deepening of consumer culture and branding,

> "…the links between material goods and identity may become even stronger in the future." (Dittmar, 2004)

In this sense a key conclusion of this thesis is the importance and even centrality of materialistic values, image, self-identity and role-identity as influences on the

participants' positive attitudes, behaviour and behaviour intention towards use of the car in favour of other more environmentally friendly modes.

9.4. Control beliefs

In addition to those behavioural and social beliefs referred to above, the present study also revealed that the participants' behaviour intentions are influenced by control beliefs with regards the required resources and potential obstacles the participants believe (or 'perceive') influence their ability to travel in the manner they wish. As such these findings support those reported previously (as discussed in Chapter Four).

9.4.1. Access to the mode

With respect to accessing the car (as a passenger, or as a driver), apart from one member of group 11F(1) who revealed difficulties in accessing her family car (due to her needs as a wheelchair user[194]), all other participants in the study indicated that they have access to a car - the majority stating that they have a car at home and that they receive lifts from their parents, siblings and friends. In contrast, the majority of participants indicated that limited access to the bus does act as a control factor in relation to this mode and part reason why they choose the car instead (citing the need to walk to the bus stop as the main reason)[195]. Nonetheless, a member of group 18F(1) illustrated a positive attitude towards the steps she believes bus companies are taking to increase access to the bus for those with physical disabilities (such as raising the kerb at bus stops) and a member of group 11M(2) claimed, in reference to his photo shown below (Photo 8, page 230), that there are "loads of bus stops" and that this is a "good thing" in that people do not have to walk far to access this mode.

[194] She appears to find it easier to use a minibus to travel, due to the problems of transporting her wheelchair. However, she did display a positive attitude towards learning to drive an adapted car in the future.

[195] In addition, during the discussion with group 18M(1), it emerged that for one participant, use of the school bus was made impossible due to a lack of access. He remarked that there is no bus service available to him and therefore he was "forced" into using the car. It is important to remember that this is only a stated intention however, and it is impossible to know whether he would have actually used the bus had it have been available.

Photo 8: Taken by a group 11M(2) participant

In relation to the participants' ability to access the places they like to cycle it has already been noted (in section 9.2.3.) that the participants in groups 15M(1) and 18M(1) referred to their difficulty in transporting their bikes via the bus and train. In addition, a member of the latter group referred to the difficulty he experiences in accessing somewhere to store his bike once he has arrived at his destination.

9.4.2. Safety

As revealed by a number of previous studies (DHC, 2003; Barnado's, 2004; Cole-Hamilton, 2002; Thomas and Thompson, 2004; all noted in Chapter Four), safety has been found to be an important perceived control factor in relation to the ability of young people to walk and cycle. In the present study, safety when cycling was discussed by the majority of participants, including those in groups 11F(1), 11F(2), 11M(2) 15M(2), 18F(1), 18M(2), 18F(2). For example, participants in group 18F(1) referred to their fear of cycling next to cars (thus illustrating an emotional response to this issue), falling off their bikes, cycling at night and the generally unpleasant experience and 'vulnerability' of cyclists when sharing the road space with motorised traffic. Further, in writing about Photo 9 (page 231) in his photo booklet, a member of group 18M(2) referred to the dangers of sharing the road with cars. During the discussion with this group and in reference to the same photo, another member of this group referred to his experience of drivers who do not show consideration for the safety of cyclists.

Photo 9: Taken by a group 18M(2) participant

In addition to this, participants from group 18F(2) suggested that it is the danger of cycling that prevents them from using this form of transport at all. In explaining why this is the case, two of the participants referred to their enjoyment of cycling at Centre Parcs[196] but highlighted that this pleasure stems from a lack of motor vehicles at this location - in comparison to what they describe as the "scary" and "crazy" traffic where they live.

For other participants (including those in groups 11F(2), 15M(2), 18M(2) and 18F(2)), it appears that the issue of cycle safety does not act as a disincentive to cycle, but instead as a reason to cycle on the pavements rather than the road. Importantly the participants in group 15M(2) illustrated that although they are aware that this behaviour is illegal, and that it frustrates pedestrians, they continue with this behaviour. Perhaps explaining why this is the case, the participants in group 18M(2) suggest it is their right to behave in this way, even if this is at the expense of pedestrians:

> - I know three people who've got hit. I looked at my mate's bike and his front wheel was bent in half where a car just pulled out of a junction, saw the bike, but just pulled out anyway and expected the bike to stop, but he just went thinking the car would get out of the way so he just went smash straight into the side of it. There's just no…it's not safe. So I end up cycling on the pavement, and people complain, but we have to ride safely.
> *(Group 18M(2) participant)*

[196] Center Parcs is a European network of holiday villages and cycling is the main form of transport around each park.

Therefore, it would appear that these participants cycle on the pavement a) because they are concerned about their safety with respect to other road users and b) because they believe it is their right to be able to cycle safely. However these beliefs also indicate that they consider cycling superior to walking and treat pedestrians in a way that is reflective of this - they push them aside. Ironically this reflects their own treatment by motor-vehicles and suggests a domino effect – motor-vehicles push the cyclists off the road and onto the pavement, the bikes attempt to push the pedestrians off the pavement, but the pedestrians have nowhere to go. This attitude may explain why these participants (and young people in general) are also willing, and intend, to move 'up the ladder' to the car - the most 'superior' form of transport in this respect.

Several participants also referred to their safety as a control factor in relation to their ability and desire to walk, but for different reasons. Female participants in groups 15F(1), 18F(1) and 18F(2) referred to their fear of walking alone and at night, whereas the participants in group 18M(2), when discussing Photo 10 (below), expressed concern about safety as a pedestrian on the journey to school:

> - …a kid got knocked down there didn't he…nasty.
> - Yeah…kids go there all the time and they've actually changed it coz it used to be different, but it's still pretty terrible coz every kid that comes to this school has to cross at this point eventually…and there are two main roads and they come into each other, so it's about traffic and danger.
> *(Group 18M(2) participants)*

Photo 10: Taken by a group 18M(2) participant

Further, the participants in group 15F(1) revealed their negative experiences of "boy-racers" (as defined by them) in the areas where they live, specifically referring to the potential danger they pose to pedestrians (as well as the "bad name" they brand all young people with):

- But it's like all the boy racers that knock [children] over. *(Participant A)*
- Yeah they're like zzzoooommm *(whips her hand across in front of her)* and they don't really care. *(Participant B))*

(Group 15F(1) participants)

In reference to Photo 11 (below), a member of group 11M(2) referred to his belief that the heavy traffic on his street limits his ability to play there,

- If I try to go out in the street and play football, I'll just get run over.

(Group 11M(2) participant)

Photo 11: Taken by a group 11M(2) participant

However, it is important to note that these participants still stated their intention to drive in the future, despite recognising the dangers posed by the car as a pedestrian and as a cyclist. In this sense, these comments illustrate the importance of remembering the context in which people refer to their attitudes. For example, an individual may use several forms of transport and end up expressing contradictory attitudes towards transport issues as a result – as a 'cyclist' they may express anger at drivers, as a 'driver' they may express irritation at cyclists, and as a 'parent' they may worry about traffic in general due to their child having to cross several busy roads on their way to school. In the same way, these participants may continue to express the same

attitudes towards their safety when speaking as a cyclist and as a pedestrian once they can drive, but different attitudes when they are speaking as a driver.

9.4.3. Cycle theft and vandalism

Supporting those findings made by DHC (2003) (as referred to in Chapter Four), a number of participants referred to bike theft and vandalism and the role this plays in influencing their negative attitude towards using this mode. For example, participants in group 15M(1) explained that their choice not to cycle to school was influenced by a lack of trust in the bike storage facilities available to them and their experience of other students stealing or vandalising their bikes (or parts thereof). This group also indicated that this issue becomes more extensive as young people age and when asked why this is the case, one participant replied,

> - Because people know you.
> *(Group 15M(1) participant)*

The participants in this group also consider this the reason why it tends to be only the youngest students (i.e. 11 yr olds) that cycle to the school.

Participants in groups 15M(2), 18F(2), 18M(1) referred to their experiences of bike theft and vandalism outside of school, again suggesting that this acts as a disincentive to cycle:

> - …that's also the reason why you can't just like cycle into town and leave it there coz someone will nick your tyres or slash them.
> - The one time I left my bike in town, it got nicked (he shakes his head).
> *(Group 15M(2) participants)*

> - …when I cycle to tennis it's alright because I can just leave the bike where I can see it, but…I don't know if I would cycle to other places because in some places there aren't places to put your bike.
> *(Group 18F(2) participant)*

> - …my Mum's boyfriend's bike was inside a secure thing, inside gates, inside a pen thing, mesh-cage thing and this bloke tail-gated in, broke the lock, on camera, snuck off a bike, he didn't have a hood or nothing, took his bike, and the police then said "oh we can't do anything about it".
> - Yeah, my Sister's got nicked last weekend.
> *(Group18M(2) participants)*

One member of group 18M(2) also pointed to the cost of having bikes stolen in that,

> - …you can't afford to keep buying bikes, and there's no insurance.
> *(Group 18M(2) participant)*

On returning to the literature, it is clear that cycle theft and vandalism has been recognised as an important deterrent to cycling for some time. The Transport Research Laboratory (TRL, 1997; cited in DfT, 2006b) report that 17% of UK cyclists had suffered bike theft between 1994-1997 and of these, 24% said that they no longer cycle at all and 66% cycle less because of the risk of theft. With respect to young cyclists, DETR (1998) reported that the number of 16-19 yr-olds who own a bicycle is considerably higher than the number who actually use them, and reasons for their non-use include the problem of leaving and securing bikes 'en route' and at destinations. These findings, as well as those reported here with respect to the present study and those reported by DHC (2003), suggest a need for more effective 'harder' policy measures such as secure cycle parking facilities in both schools and town centres, rather than soft measures attempting to change attitudes towards cycling in this context. As stated by Gammon et al. (2004),

> "…for bike usage to flourish cycle parking provision, and its security, must be effectively conceptualised and efficiently integrated into the built environment. As a known deterrent to cycling and as a form of street crime, bike theft must be acknowledged as a serious problem, and addressed through intelligently designed and implemented cycle-parking provision and other schemes." (Gammon et al., 2004)

In addition, as noted in Chapter Four, it is important to remember that a young person's negative experience when travelling by a given mode may impact on their choice to do so as an adult (Atkins, 1996). Thus without targeting the bicycle crime experienced by

young people in particular, those experiencing this issue may never return to this mode in the future.

9.5. Summary and discussion

With respect to the aim of better understanding the attitudes of young people towards transport in light of their intention to move away from more environmentally friendly modes of transport towards use of the car at the point of licence acquisition, it can be said that a number of findings have been made. Consequently, this section begins by considering why the participants expressed an overwhelmingly positive attitude towards the car and an intention to continue driving or to learn to drive in the future. At the same time it considers why other more environmentally friendly modes were generally referred to in a negative light – potentially explaining why they intend to move away from these modes towards the car. Following this however, it considers those insights that indicate that the participants' attitudes towards transport and travel behaviour intentions may be open to change.

9.5.1. The dominance of the car

It has been found that the dominance of the car, with respect to the participants' current behaviour and their intention to drive and/or own a car in the future (as illustrated in Chapter Seven), can be explained by a variety of attitudes and beliefs, towards both the car and those modes deemed more environmentally friendly. These are summarised below:

9.5.1.1. Insights with respect to behavioural beliefs

Several participants revealed an attraction to the speed of travel (and therefore shorter journey times) they believe the car could afford them in comparison to other more environmentally friendly modes. In addition, although at least one participant in each group recognised that the car may not, in reality, afford them the speed they desire (due to traffic jams and speed limits), these participants did not change their opinion

that speed is a positive attribute to the car. This is a new insight (with respect to the current evidence base) and illustrates the level to which these participants' attitudes towards each mode are fixed, as well as potentially influenced by cognitive dissonance or impression management. In contrast, the majority of participants referred to the lack of speed they believe is associated with the bus and the time-pressure they feel as a result – both of which act as an incentive for them to choose the car in favour of this mode.

Also adding to current understanding it was found that, although several participants pointed to cost as an issue in relation to the car, they did not believe it to be a reason not to learn to drive, instead viewing it as something they would simply need to consider when doing so. One of the main reasons for this was the intangibility of the costs of the car through a) the relief of these via their parents and b) due to the 'invisibility' of such costs each time they use the car in comparison to the 'up front' cost each time they use the bus. The majority of participants also referred to the bus as too expensive and a reason to choose the car instead.

Further confirming conclusions made in the literature, a high proportion of the participants pointed to the flexibility they believe they will gain (and already have gained) via the ability to drive as well as their belief that use of the car can provide them independence and access to destinations, people and amenities important to them. In contrast they referred to the inflexibility and unreliability of the bus timetables and services, and the inflexibility and unreliability of cycling and walking due to: unpredictable weather, the physical impact of cycling (i.e. getting 'sweaty'), the disruption caused by heavy traffic and parked cars, and distance.

As found previously (DHC, 2003), several participants recognised that cycling and walking are better for their health in comparison to using the car. However, in adding to the current literature, it was also found that the majority of these participants could identify a number of reasons why cycling and walking to school (or to work) as a form of exercise, is not something they want, or are able to do. For example, several participants referred to the inconvenience of utilising their travel in this way and, more importantly, their desire to separate travelling and exercise. Further, a number of participants singled out their belief that the car is a way to "save energy" on their journey and one group even agreed that this is because they are "the lazy generation".

Highlighting the importance of the participants' emotional response to the different transport modes discussed, drivers in the study expressed a positive attitude towards the level of comfort and control they have over the journey experience due to their ability to personalise the car environment. In contrast, a number of participants (drivers and non-drivers) referred to the lack of comfort they feel when travelling by bus and their negative experience of cycling due to the aggressive, "incompetent" and "pushy" behaviour of drivers with whom they share the road. A number of participants also referred to the feeling of freedom they associate with, and experience, when using the car in comparison to the lack of freedom and confinement they feel when using the bus. A few participants also suggested that they enjoy the sensation of speed when using the car.

Adding to current understanding, a small number of participants revealed their positive feelings towards the volume of traffic on the roads where they live or a desire for heavier traffic in this context – suggesting that it acts as a sign of life and activity and that they would miss it if it was not there. Thus it would appear they have been conditioned to accept, and even enjoy, the car as part of their lives, a finding illustrating the extent to which their positive attitudes towards the car may be difficult (if not impossible) to change. Nonetheless, the present thesis is not suggesting that the car needs to be removed from the road altogether but simply reduced with respect to its less necessary use.

9.5.1.2. Insights with respect to social norms, image, self-identity and role-identity

Further highlighting the importance of emotion, all of the participants expressed positive beliefs in relation to the image they believe can be afforded a car-user by the car itself. As such, a number of participants referred to the car using body language as though in love. In explanation for this, these, and other participants, made positive reference to the car's aesthetics, branding, the culture associated with certain makes and models, wealth and power. Such comments also illustrated the power and success of marketing in relation to the car.

Further, a number of participants referred to driving as a sign of growing up and reaching adult status, confirming those findings made by Turner and Pilling (1999) and Mackay (1997). Adding to current understanding it was also found that these participants' ability to drive allowed them to carry out a role as a member of their family and their peer group – thus illustrating the importance of role-identity in this context. In addition, confirming the importance of social norms, participants in group 15F(1) referred to the pressure they feel from their peers to own a "nice car" and their desire to project the right image in the eyes of this audience. At the same time a number of the groups referred to what they considered to be 'acceptable behaviour' in relation to the car (i.e. what they believe to be the social norm in this context) even at age 11. Participants in group 11M(2) went as far as to suggest that the positive self-image afforded by a car may be more important than the ability to drive.

In the same vein, the majority of participants referred to the negative self-image they believe would be afforded a person by using the bus and that the only acceptable reason for people using this mode (in relation to the social norm) is that they cannot drive. Similarly, in relation to cycling, several participants referred to the negative image they associate with cycle helmets – a finding that has important implications not only for promoting cycling, but also cycle-safety. In addition to this, one participant referred to her negative body image (and her belief this is unacceptable in the eyes of society) as a reason not to cycle. This has implications for promoting cycling as part of a healthy lifestyle and a way to improve body image, in that this latter factor prevents this participant from using this mode in the first place.

9.5.1.3. Insights with respect to control beliefs

Confirming the conclusions of previous research, with the exception of one participant, all others in the study indicated that they have access to a car (as a driver and/or as a passenger) - the majority stating that they have a car at home and that they receive lifts from their parents, siblings and friends. In contrast, the majority of participants indicated that their limited access to the bus acts as control factor in this context and part reason why they choose the car in favour of it (citing the need to walk to the bus stop as the main reason). Further, a number of participants explained that their choice

to cycle is influenced by a lack of trust in the bike storage facilities available and their experience of cycle theft and vandalism.

As noted in Chapter Four it is recognised that the participants' access to transport modes will also be influenced by their socio-demographic backgrounds (such as their family income and the geographic location of their home). Overall it can be said that the participants' reference to access are consistent across the urban and rural schools and therefore socio-demographics would not appear to be an influencing factor in this context. However, as explained in Chapter Six, specific details of these issues were impossible to obtain and/or refer to in the research on ethical grounds. It is also true to say that it is impossible to know whether the results would be the same if the study was carried out elsewhere, in a different city where access to transport was very different. For example, unlike London, Bristol has not got an underground system, and unlike (for example) Sheffield and Manchester, it does not have a tramway/light rail system. For these reasons, public attitudes towards transport are also likely to differ between these locations.

In agreement with the current literature, a number of participants also referred to their safety as a control factor with regards their ability to cycle and walk, pointing to issues such as cycling next to cars, falling off their bikes, cycling at night and the generally unpleasant experience and 'vulnerability' of cyclists when sharing the road space with motorised traffic. A few of the participants even suggested that it is the danger of cycling that pushes them away from using this form of transport altogether.

A number of the female participants also referred to the fear they feel when walking alone and at night and participants from one group revealed their negative experiences of "boy-racers" (as defined by them) in the areas where they live, specifically referring to the potential danger they pose to pedestrians. Further, several of the 11-yr-old participants pointed to their belief that the volume of traffic outside their schools, and in the streets where they live, limits their ability to walk home safely and to play in the streets where they live.

9.5.1.4. Values

With these findings and the discussion of values presented in Chapter Three in mind, it is suggested by this thesis that the majority of participants express attitudes that can be related to the values identified by Rokeach (1973, 1979) (as introduced in Chapter Three). As such, their need to travel quickly, safely, comfortably and efficiently (which includes using a reliable and flexible form of transport that allows them to arrive on time to their destination) can be linked to 'A Comfortable Life', 'Freedom', 'An Exciting Life' and 'Pleasure' as identified by Rokeach. Also, with respect to their travel behaviour intentions, the importance the participants appear to place on image and identity can be linked to 'Self-Respect' and 'Social Recognition'.

Therefore, it is suggested by this thesis that the attitudes and beliefs expressed by the participants in relation to different transport modes, are on the basis of these values. For example, in relation to the car it has been shown that the participants' positive attitudes and beliefs towards this mode are in relation to the majority's belief that a) it is the quickest, most comfortable and efficient way to travel and b) it is capable of providing the driver/owner with a positive self-image, self-identity and role-identity. In contrast, the majority of participants illustrated that they consider the bus to be uncomfortable, inefficient and slow and that there it no part of it as a vehicle or its use that is capable of improving their self-image or influencing their self- and role-identity.

In addition and as mentioned previously, due to the fact that it is possible to purchase a car (as a vehicle) and not a bus or train, it is also put forward that materialistic values act as an important influence on the participants' attitudes and behaviour towards the car in particular[197]. Such values are similar to those of 'Self-Respect' and 'Social Recognition' (as identified by Rokeach) but point specifically to the idea that *material goods* can provide a person with an image of financial wealth and social status - and therefore a sense of identity, success and happiness. With this in mind, a key conclusion of this thesis is the importance and centrality of values including 'A Comfortable Life', 'Freedom', 'An Exciting Life', 'Pleasure', 'Self-Respect' and 'Social Recognition' as identified by Rokeach, and 'Materialism' as discussed by Dittmar

[197] Although it is also possible to purchase a bicycle, it did not appear to be the case that the participants viewed their bikes in this way – even if they did, this appeared to be outweighed by the importance of cycle safety, theft and the generally *negative* image they associate with using this mode.

(2004) in the participants' value systems towards transport, and the role they play in influencing the participants' positive attitudes, behaviour and behaviour intention towards use of the car in favour of other more environmentally friendly modes.

9.5.2. Is there room to influence behaviour?

As noted throughout this thesis, when considering the degree to which the attitudes of young people towards transport are open to influence, one of the most important factors to take into account (and therefore a further 'key finding' with respect to this thesis) is the degree to which their attitudes are based on *experience.* If this is the case then their attitudes have an intra-attitudinal structure and are thus more difficult to change (as highlighted in Chapter Four). This is particularly important with respect to the bus in that it would appear that bus companies are relying on young people having a positive experience of using this mode and then using this experience as a reason to continue using it as an adult. However, as has been illustrated by this chapter, the experiences of the young people involved in this study (as well as those studied else where) have been exceptionally negative. Similarly, their negative experiences of cycling with respect to safety, as well as cycle theft, can be expected to negatively influence their behaviour towards this mode in the future. In contrast however, their experiences of using the car have been generally positive.

In this sense it would appear that there is little possibility of influencing the participants' intended behaviour away from use of the car in the future. However, this chapter has highlighted a number of insights that suggest that the dominance of the car may be challenged by targeting certain negative beliefs and attitudes towards the car and positive beliefs and attitudes towards the bus, train, walking and cycling. These attitudes may be explored in further research and, depending on the results of this, utilised with regards developing messages as part of policy and educational campaigns focused on influencing young people away from an intention to drive and towards an intention to use more environmentally friendly modes. These specific beliefs and attitudes are summarised below:

- Confirming a number of conclusions in the current literature, several participants referred to the speed, and therefore shorter journey times, they believe they can

achieve by cycling in comparison to walking, as well as congested traffic. Participants also referred to the reliability of the train (in comparison to the bus), the high speed travel they believe this mode affords them (also considering it faster than the bus) and their positive beliefs about the costs of using it - a few even considering it cheaper than the car. Further, a number of participants referred to potential financial incentives that may increase their use of the bus and the train – mainly pointing to cheaper prices in relation to the former and bulk ticket purchases or travel cards in relation to both. A few participants also displayed a sense of confusion with respect to the student rail card, suggesting that there is room for improving their understanding, and perhaps uptake, of this scheme.

- In discussing ways to improve the bus and increase their use of it, several participants pointed to improving the interior via music, cleanliness, colour changes and new seat fabric, although there was more universal agreement in relation to issues including the 'dirtiness' of the bus, negative experiences with bus drivers, and the irregularity and expensiveness of this mode. In this sense it would appear that there is less 'grey area' in relation to these latter issues and thus it is suggested here that they should be targeted first by the bus industry.

- Adding to current understanding in the context of this thesis, all of the participants referred (to some extent) to their beliefs about health in relation to transport – with respect to both the impact of transport-related air pollution and the link between transport behaviour and obesity. As such, a number of participants pointed to the car as an important factor in relation to obesity in that it discourages exercise.

- A number of participants agreed that journeys in the car lack sociality. For example, a member of group 11F(2) indicated that she has a positive attitude towards walking rather than travelling by car, in part because she feels that in the car she misses out on personal interaction with her mother. Also in relation to the importance of socialising, a number of participants expressed similarly positive beliefs in relation to the sociality of travelling by *coach* where they tend to travel with friends and/or family.

- Perhaps one of the most important findings with regards influencing young people away from an intention to drive, a number of those participants able to drive

referred to their belief that using a mode of transport other than the car can be a positive experience because it means that you 'do not have to drive' and instead you can "chat to friends" or "read a book"

- With respect to the train, despite the participants' own recognition that their beliefs and attitudes towards this mode are based on little experience (and therefore perhaps the novelty of using it), their comments towards the experience of travelling by this mode were generally positive. A number of participants considered the train, "fun", "exciting", "smoother" and "calmer" than other forms of transport and enjoyable because "you can see the views" and they tend to use it when socialising. Others commented that the train "looks better and feels cleaner" than the bus, and that "there's more space", "and they're nicer". Further, a number of participants referred to their positive beliefs about other train passengers in comparison to those that use the bus, and therefore the more 'classy' image they would, and do, project by using this mode. A few participants also suggested that by using this mode they are following the social norm.

With these findings in mind, it is put forward by this thesis that the participants also value the ability to socialise and a number of the participants' positive attitudes and beliefs about walking, the train and the coach are in line with this – as are a small number of participants' negative attitudes towards the car. Such a value may also be targeted in policy and initiatives aimed at increasing use of these modes.

9.5.3. Life-stage and gender

With respect to identifying life-stages where information about transport may be received more readily by young people (in relation to new policy and initiatives aimed at influencing their travel behaviour intentions) and with regards the degree to which the findings differed according to gender, a number of findings were made. Firstly, it became clear that gaining the ability to drive is a key life-stage in relation to the participants' car related attitudes and behaviour intentions, whether this is at age 17 or later. Two particular attitudes (noted above) appeared to be influenced by this, but differed in relation to how they may be utilised by those attempting to influence the attitudes of young people with respect to the car (specifically in light of influencing them

away from an intention to drive, towards an intention to use more environmentally friendly modes).

Firstly, it was found that those participants able to drive displayed a positive attitude towards the car-journey experience due to the control they believe they have to personalise the car environment. In contrast, those participants unable to drive referred to their belief that they lack control over the car journey experience as a passenger and expressed their negative attitudes towards this aspect of the car journey as a result. However, the latter participants also indicated their intention to drive in the future, thus suggesting that they may consider this control something they can gain as a result.

Secondly, and in contrast to these findings, a number of the drivers also explained that they enjoy using modes of transport other than the car because this means they do not have to drive. As noted previously, it would appear that even after a relatively short period of driving the participants appreciate the opportunity to travel without having to drive themselves. If such attitudes were found to be widely held amongst young drivers, they could be utilised by those attempting to influence young people away from an intention to drive. Such messages could relate to the idea that the reality of driving is not always as positive as young people may believe it to be before they reach the age of 17 - in that some young drivers express negative beliefs about driving within only a year of gaining their licence. This is also a reason to target information and campaigns promoting use of transport modes other than the car at this age group – as an alternative to “having to drive”.

With the exception of these factors, it was found that all of the other behavioural beliefs referred to by the participants (with respect to the transport modes discussed above) were made irrespective of this particular life-stage in that both drivers and non-drivers expressed mainly positive attitudes and behaviour intentions with respect to the car and to the train, and generally negative attitudes towards the bus and cycling.

With respect to the variation in responses according to gender, the results are similar to those discussed in Chapter Eight in that it is the participants’ own beliefs about gender issues with regards transport modes (which are considered social beliefs due to the participants’ concern with image in this context), rather than an overall variation in the

findings according to gender that is of particular note. Two main findings are considered important in this respect. Firstly, participants from one of the 15 yr-old female groups agreed that "BMXing" is not something that girls are as interested in as boys (including themselves) – a finding that the present study would appear to support, in that it was only the male participants who referred to their enjoyment of this type of cycling.

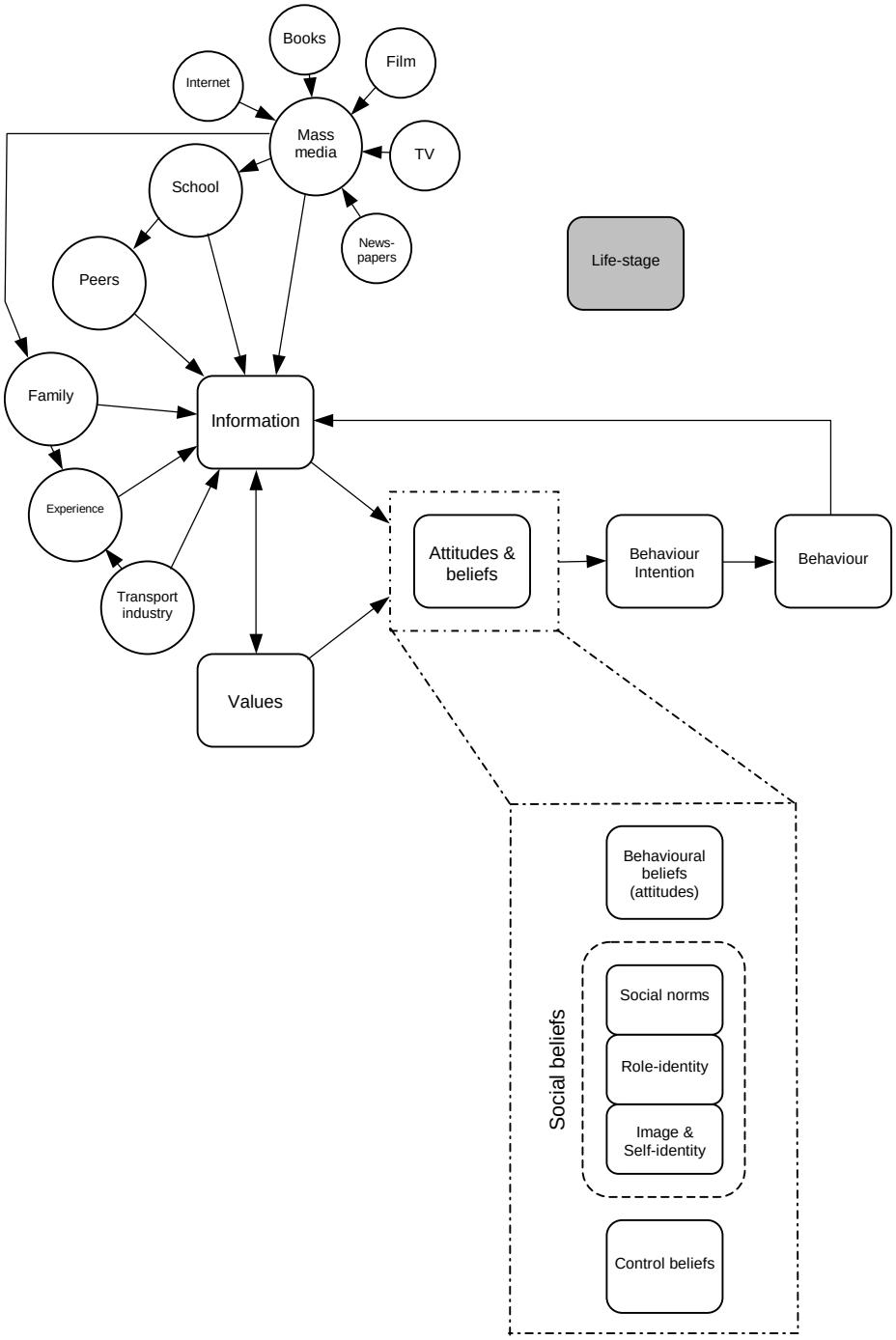
Secondly, participants from group 11F(1) highlighted an issue of gender in relation to society's enthusiasm about the car, proposing that such enthusiasm is associated with males in particular, while at the same time making these comments in a tone suggesting they do not want to be linked with this 'image' – perhaps because it would mean associating themselves with (what they believe to be) a 'male' characteristic. Similarly, a member of group 18F(1) suggested that it is "mainly male drivers" that are interested in "cars themselves" and the participants in group 18F(2) agreed that "girls love little cars", and "boys love the fast, mean cars." In addition to this, and beyond the issue of image, it was also found that only female participants referred to the fear they feel for their personal safety (it is assumed with respect to the danger of being attacked or molested) when travelling by bus at night and walking alone and at night. With respect to all other behavioural beliefs referred to by the participants, these were made with no obvious variation according to gender.

9.5.4. The research framework

The findings presented in this chapter are added to the 'research framework' as illustrated in Figure 13 (page 247). Here it is held that the sources of information and signals about transport and climate change identified in Chapter Eight form the basis of the participants' attitudes and beliefs towards transport modes (which relate to both their rational cognitive and emotional (affective) responses towards the same), as well as their values – and their values also influence their beliefs and attitudes. These attitudes and beliefs, as shown by the expansion of this concept within the main framework, include behavioural beliefs (and therefore attitudes), image, self-identity, role-identity and social norms (which are grouped under 'social beliefs '), and their control beliefs. These attitudes and beliefs then influence their behaviour intentions and, in turn, their actual travel behaviour.. The experience of travelling by the mode of

transport chosen provides a feedback loop between behaviour and information. Life-stage (highlighted in grey) - in this case the ability to drive - is assumed to impact all of these factors (but to ensure visual clarity, these arrows are not shown).

Figure 13: Factors influencing attitudes and behaviours towards transport modes



With these findings in mind, attention now turns to the degree to which the findings of the present study suggest that the participants' willingness to tackle climate change (as a specific personal norm) acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour, in addition to those factors highlighted in this chapter.

Chapter Ten
Willingness to tackle climate change

10.1. Introduction

Chapter Eight illustrated that a variety of sources of information and signals (part) form the basis of the participants' beliefs and attitudes towards transport modes and in turn their transport behaviours (both current and intended) as were discussed in Chapter Seven. These beliefs and attitudes were then explored in Chapter Nine. Building on this understanding and with the aim of the present thesis (to better understand whether the participants willingness to tackle climate change does, or has the potential to, influence their current and, more importantly, future intended travel behaviour) in mind, this chapter considers the potential for utilising the participants' willingness to tackle climate change (as a specific personal/moral norm) in transport policy and initiatives aimed at influencing young people away from an intention to drive, towards an intention to use more environmentally friendly transport modes.

As such, this chapter begins by considering each of those factors identified in Chapter Four as being potentially influential in this context. Attention is therefore given to the participants' understanding of climate change and the link between this issue and transport (as well as their (self-prompted) requirement for further information). Following this, the participants' confidence and interest when discussing climate change is analysed. The participants' concern about climate change, awareness of consequences and ascription of responsibility with regards climate change and the impact of their transport behaviour upon this (as well as the control beliefs regarding the same) is then discussed.

With these factors in mind, this chapter then presents an account of the participants' willingness to tackle climate change – in relation to both climate change 'in general' and the link between transport and this issue. As such, the chapter considers the ways in which they are currently attempting to tackle climate change, as well as their *intended* willingness to do so.

10.2. Understanding of climate change

Chapter three highlighted the need for further exploration of young people's understanding of climate change, in particular their sophisticated understanding of this issue. In addition to this, it was considered necessary to establish whether the participants believe they require further information with respect to climate change and, if this is the case, what *type* of information they want. This section will highlight the findings of the present study with these particular factors in mind, while at the same time linking the findings to those reported in the current literature.

In agreement with Climatechallenge (2006b), the majority of participants in the present study recognised the concept of climate change and understood that it refers to a serious environmental issue (with the exception of two individuals who stated their belief that it does not). Further, the participants expressed a range of beliefs about the potential impacts of climate change, but also a range in understanding of these. For example, although, with the exception of one participant in group 11F(1) (who believes that, as a result of climate change, "it will get colder"), the majority of participants expressed their belief that climate change will bring warmer or hotter weather, and/or the melting of ice, and/or flooding, and/or more extreme weather events (such as Hurricane Katrina), there was some variation in the details given by the participants and at times their comments appeared somewhat exaggerated, or misinformed:

> - … the sea will rise about a hundred metres.
> *(Group 11F(1)participant)*
>
> - And then eventually the world's gonna flood because all the ice will have melted and it's just gonna go pssssshhh *(she bangs both hands down onto the table)*…and then the sun will explode and we'll all die *(the other participants nod)*.
> *(Group 15F(1)participant)*
>
> - The polar ice-caps are melting….and it's gonna flood everywhere.
> *(Group 18F(1) participant)*

Similar to those findings reported by Climatechallenge (2003), Boyes and Stanisstreet (1996) and Koulaidis and Christidou (1999), a small number of the participants in

groups 11M(1) and 11F(1) also incorrectly assumed that there is a link between climate change and ozone depletion. Further to this, a number of the participants understood that there is a link between transport and climate change, but within this number, approximately half of the participants suggested that it is the 'smoke' emitted by these modes that is the key factor, when in fact CO_2 is not visible and the pollution that can be seen is made up of other emissions unrelated to greenhouse gases or climate change (although they are linked to other environmental and health issues[198]).

Illustrating less confusion and in addition to those findings reported by Climatechallenge (2006b), a number of the participants showed an awareness of fuel efficiency and alternative fuels as a solution to reducing greenhouse gas emissions. As such, the majority of these participants viewed inefficient use of fuel in a negative light and the use of 'alternative fuels' positively. For example, participants in group 18M(1) referred to images 2.1-2.3 as "gas guzzlers", and cars that "burn a lot of fuel" during their discussion. Two participants in group 11F(1) illustrated knowledge of the inefficiency of cars (in particular "sports" models), with the exception of those using alternative forms of fuel:

> - They're all bad in general apart from ones that are using different things like water.
> - **Yeah or electric cars.**
> *(Group 11F(1) participant)*

In discussing fuel further, a small number of the participants illustrated an understanding of global politics in relation to the difficulties of reducing our dependence on oil, including those in group 15F(1):

> - ….I think if people stopped using cars we wouldn't have to buy oil off people like Iraq and then there wouldn't be the whole thing with the war going on, with them like saying we're going to take all your oil away. But it's happening

[198] For example, nitrogen oxide and sulphur dioxide have been linked to the acidification of soil and water (Henninger, 1994), nitrogen oxides contribute to photochemical smog and acid deposition (Stead, 2000); and particulates of carbon and partially burnt organic compounds are linked to health problems such as asthma (Royal Commission on Environmental Pollution, 1994).

> because like people have become dependent on it and so we need something that doesn't run on oil…like a tram.
> *(Group 15F(1) participant)*

During the discussion with group 18M(2) one participant suggested alternative fuel technology could be a key factor in tackling climate change, but this was questioned by another group member due to his beliefs about the transport-related behaviour of less technologically-advanced, newly-industrialising countries:

> - We need to just make the best of sustainable energy…we're getting there with fuel cells and stuff like that, but it needs a lot of work doing on it. *(Participant A)*
> - Well technology's more advanced, but then that's just the richest people. You're always going to get the, sort of, newly industrialised sort of countries. *(Participant B)*
> - Yeah but they can use all like solar panels and stuff can't they? *(Participant A)*
> - Well not all of them *(despairing laugh)*, like China and stuff are hugely industrial and there's going to be more countries like that. Especially coz… industrially all the countries are all still pretty young, and there's probably going to be loads more countries getting like China, and that's going to lead to more problems with climate change. That's not even stuff we have control over. So that's going to be scary. *(Participant B)*
> *(Group 18M(2) participants)*

In contrast to these findings, and to those findings reported by Climatechallenge (2006b), although the participants were aware of climate change, a small number stated that they do not know what this concept means (with respect to how it will affect the world, the UK or themselves), often blaming a lack of information for this lack of understanding. In addition, despite the degree to which the participants understood that climate change refers to a serious environmental problem and a number of participants displayed an understanding of some of the issues associated with it (as highlighted above), overall the majority of participants' sophisticated understanding of climate change was fairly poor - particularly in relation to the link between transport and climate change. They lacked clarity and their statements were often based upon an exaggerated interpretation of facts (with respect to best scientific understanding).

However, it can be said that with increasing age the participants' comments reflected a higher degree of understanding. This is likely to be due to the influence of school-based information (via GCSEs for the 15 yr-old participants and A-levels for the 18 yr-olds in particular) and the degree to which the participants considered school an important source of information about climate change. As such, the question remains (with regards future research) as to whether, when they leave school, the participants will continue to gain information that improves their understanding.

10.3. Confidence and interest

It is recognised by this thesis that the degree to which the participants illustrated their understanding of climate change (as discussed above and referred to here) will have also been influenced by their confidence and interest in this subject. Further, as discussed in Chapter Four, these issues are not only important in relation to the degree to which the present study engaged with the participants when talking about climate change (and the link between this and transport), but also the likelihood that they will be interested and confident in receiving new information about this issue in the future.

As noted in Chapter Four, a number of authors have reported that young people express low levels of interest and engagement in issues relevant to them and, as such, there are generally low levels of political interest among this segment of the population (Furnham and Gunter, 1987; Kimberlee, 2002; Mardle and Taylor, 1987; Park, 1995). In contrast, and in addition to this literature, the present study found that the majority of participants were enthusiastic and interested in discussing climate change when prompted (by the moderator or by themselves) to think about this issue. In addition, although a small number made no comment on this subject, this does not necessarily mean that these participants are not also interested in climate change. It may have been that these participants did not want to, or did not feel confident enough to comment, even if they are fully informed and confident in their understanding of climate change. Yet the opposite may also be the case – they lack even a basic understanding of this topic and therefore did not comment on it, despite generally being confident in their ability to articulate their thoughts in a discussion group. At the same time, they may have a thorough understanding of climate change and confidence in the discussion environment, but were simply uninterested in the subject.

Of those participants that did comment on climate change it became clear that confidence was a key factor. For example, although one member of group 18F(1) offered her thoughts about the environmental impact of transport, she appeared to lose confidence when talking about climate change specifically due to her belief that the other participants were more informed than her. Following the other group members' comments she laughed awkwardly and replied,

> - You carry on talking about it, I don't know as much. All I know is that it's about the pollution…it's just getting worse. And the ozone *(scrunches up her face and looks confusedly at the others)* and everything or something.
> *(Group 18F(2) participant)*

In this case it is not necessarily a lack of confidence in her own knowledge that this participant is affected by, but the comparison of her knowledge to that of others – and her conclusion that her own is inferior.

A lack of confidence due to *confusion* about climate change was expressed by a number of participants. For example, participants in group 15F(2) illustrated their uncertainty about the details of climate change and the link between this and the car and a member of group 11F(2) illustrated her understanding of the relationship between the car and "pollution", but was unsure of the link between this and climate change and exactly what the concept of climate change means:

> - Don't cars affect something around the Earth? Hang on, what's climate change again?
> *(Group 11F(2) participant)*

> - Is [*climate change*] the one where the rays come through from the sun or is that a different one? Or is that global warming, I don't know. I think I know global warming. *(Participant A)*
> - I get confused between the two. I don't know which one the car… *(Participant B)*
> - …Pollutes? *(Participant A)*
> - Yeah which one they make a difference to. *(Participant B)*
> - I'm not sure actually. *(Participant A)*
> *(Group 15F(2) participants)*

Further, although another group 15F(2) participant initially appeared more confident than the other members of her group (as quoted above), explaining that ozone layer is "a layer of O_3", she again seemed unsure of the details, continuing,

> - There's something called the greenhouse affect as well…is that global warming?
> *(Group 15F(2*) participant)

A member of group 18M(2) also illustrated a lack of confidence in his understanding, particularly when asked whether he believes his transport related behaviour contributes to climate change. Despite illustrating that he has a basic understanding of climate change earlier in the group, he claimed that he does not know the "specifics" of this issue because he is not "really sciencey", which would suggest he considers only those with a scientific background can fully understand climate change.

Together these comments suggest that, despite the majority of participants talking about climate change with enthusiasm and interest, there are significant differences between their level of confidence when articulating their understanding of this subject, and this lack of confidence, as well as their confusion, is not dependent on age. It is also felt that this lack of confidence may have been part reason why several participants made no comment at all in relation to the environmental impact of transport.

On reflection, although this is an interesting finding in its own right, it can be suggested that additional methodologies could have been used to encourage further discussion of climate change and its link with transport in particular. For example, having established whether the participants understood and/or were confident in talking about climate change, 'flash cards' could have been used to introduce certain 'facts' about this issue (such as the amount of CO_2 produced by transport in comparison to other sources, or the amount produced by cars in comparison to the bus or train) and gain further insight into their thoughts and ideas. By doing so, it is proposed that the limitation on the discussions imposed by the participants' lack of understanding and/or lack of confidence could be overcome.

10.4. Requiring further information

Further to the findings discussed above and reflective of those findings reported by Anable et al. (2006)[199], (but despite the degree to which the participants felt they received information about climate change from the various sources discussed in Chapter Eight), several participants felt either that they did not receive enough information about climate change, or that the information they did receive was not what they required in order to feel empowered to tackle this issue:

> - You don't really get told what to do. They just say about it and everything but they don't tell you what to do...I think they should tell us what we can do. Instead of just saying "we're polluting the world", tell us what we can do about it.
> *(Group 11M(1) participant)*

> - …you need to get like all the information from people, but like school will only tell you what's happening, they don't tell you how to stop it. So you're kind of a bit…you don't know how to stop it.
> *(Group 15F(1) participant)*

> - They give us loads of information like about the ice-caps melting, species are dying, islands are getting covered by water…but they never actually say well if you do this it will stop it.
> *(Group 18M(1) participant)*

In addition to this, a number of participants referred to the importance of furthering society's understanding of climate change. Participants in group 15M(2) suggested that this is important in incentivising individuals to take action to tackle this issue:

> - …climate wise, unless you learn it, like properly learn it, you don't really pick up on it.
> - Yeah you don't really do anything about it.
> *(Group 15M(2) participants)*

[199] With respect to society in general – as discussed in Chapter Three.

Similarly, when discussing the role of transport-related policy in influencing travel behaviour intentions (with respect to the link between transport and climate change), a member of group 18F(2) pointed to the importance of ensuring people understand *why* such policies are being made:

> - People just don't realise it's about climate change, or they just don't want to know it is. But if you are made to know that's what it's about, I think it's better and people will be like "yeah OK, that's fine", because they know what it's about. If they just think it's not for that then it will cause havoc, but if it's for something good like climate change then I think it would be better. That it will save their lives.
> *(Group 18M(2) participant)*

In response, the majority of participants were asked to think about the ways in which information about tackling climate change, in particular that in relation to changing their current, and more importantly, intended travel behaviour, may be provided to themselves and others. Thus Anable et al.'s (2006) suggestion that this area requires further research (as noted in Chapter Three) was also targeted. In response, a number of different methods were discussed, including "speakers in school", "leaflets", and "television adverts" (although each of these were only considered by a small number of participants). However the participants in group 11F(2) did not consider the idea of using television adverts realistic, again claiming that such adverts are not listened to (as already discussed in Chapter Seven). The participants in group 15F(1) also referred to the potential use of 'shock tactics':

> - I think if they like um…gave you a day like if you don't stop now, like you said *(referring to one of other participants)*…if you don't stop now in ten years time, coz of climate change you'll all be dead. *(Participant A)*
> - That would be quite scary. *(Participant B)*
> - That would be like "woo I want to do things in ten years". *(Participants A)*
> - Yeah, I reckon some people might change if you said that. *(Participant B)*
> *(Group 15F(1) participants)*

Similarly, a member of group 18F(1)) suggested showing people "a shocking image" in relation to climate change, although another member of this group pointed to the difficulty in finding the right level,

- …if it's too horrific then they'll just, they won't think anything of it. But if it's too light, then they'll be like "well that's not going to work at all".
(Group 18F(1) participant)

Such concerns are upheld by FUTERRA (2005), who explain that using shock (or 'scare') tactics to invoke behaviour change can actually create apathy if there is no clear way in which the individual can make such changes. This is particularly true with regards the participants in this study in that there was a general belief that they are unable or unsure of how to tackle climate change.

Further to this, the participants in groups 18M(2) and 18M(1) suggested that information about climate change could be simplified:

- I think a lot of the information about climate change people would find hard to understand. Because of all the scientific terms, so they ought to make it…simplify it and things. Then people could understand it. *(Participant A)*
- I was doing a project on it the other day and *(starts shaking his head)* it wasn't really very understandable for… *(Participant B)*
- …people that don't do that type of thing. *(Participant A)*
- Yeah. They don't really give it to you there on a plate sort of thing. You have to look for it. But I suppose if you did want it, there would be people able to…I think there would be people to give you the information…you just have to find them. *(Participant B)*
(Group 18M(2) participants)

- We need some like government advertising scheme where they actually tried to encourage us to do small things. …like advertising to actually make people know that small, simple things can help. That would be realistic a move *(the other participants nod and mumble their agreement)*.
(Group 18M(1) participant)

Overall these findings can be deemed positive with respect to the participants' willingness to receive new information in light of climate change and the link between this and transport – as long as this information is simple and clearly explains how they can make changes to their own behaviour. However, it has already been highlighted in Chapter Nine that the participants intend to continue driving or to learn to drive in the

future. Therefore, despite illustrating an understanding that climate change is a serious environmental issue and a willingness to gain more information about what they can do to help tackle it, it is important to establish whether this interest stems from a real concern about climate change.

10.5. Concern about climate change

In reference to a somewhat limited current evidence base, it was reported in Chapter Four that half of the young people (aged 11-17) taking part in the study by Climatechallenge (2006b) claimed to be worried "about the impact of climate change on this country" and around a quarter (24%) agreed with the statement "I am not really bothered about climate change" (Climatechallenge, 2006b). Similarly, the present study found that, although there was some variation in responses, the majority of participants claimed that climate change is not something that worries them, including those in groups 11M(1), 11F(1), 11F(2), 15M(1), 15F(1), 15F(2) and 18M(2). One participant even questioned the existence of climate change at all:

> - I don't know if it's even true. No one seems to worry about it.
> *(Group 11M(B) participant)*

This comment is also important in that this participant appears to be basing his opinion on what he considers to be the social norm with regards concern about climate change. Would he feel more concern about this issue if other people around him did?

Adding to the current evidence base, the participants identified a number of explanations for their lack of concern. Firstly, and most importantly (due to the extent it was discussed by the participants), they referred to the time scale of climate change[200] and its corresponding tangibility[201]. In general, it appears that the majority of participants consider the impacts of climate change will be felt too far in the future:

[200] I.e.the impacts of climate change are predicted to occur over a long period of time, rather than in the immediate future.
[201] This refers to the ability of the participants (and anyone else) to see and feel the effects of climate change.

- I thought it's that the Earth is going to burn up in like a thousand years because of the ozone layer, but like I'm not going to be around in a thousand years so I don't really care.
(Group 11F(2) participant)

- **Does it worry you, Climate change?**
- Not really. *(Participant A)*
- No because we'll all probably be dead by *(Participant B)*
- ...the time anything happens. *(Participant A)*
(Group 15F(B) participants)

- It doesn't really matter what we're doing to the planet coz we're not going to be here to the see the effects will we?...I'm not saying we're not doing something to the world, but we ain't going to see the effects so…what's the point in worrying about it.
(Group 18M(2) participant)

Comparably, a member of group 11F(2) referred to the difficulty she has in picturing the impacts of climate change and the impact this has on her concern about it:

- In a way I'm worried yeah, but I just look at the future like it is now. So sometimes I care but most of the time I don't.
(*Group 11F(2) participant)*

Likewise, a member of group 18F(1) suggested that because of the time-scale of climate change, people are unaware of the gravity of the problem,

- They probably understand it but they don't think it's going to be as bad as they say it will be. And because it's in the future they can't see that obviously so they don't worry.
(Group 18F(1) participant)

Further, the participants in group 18F(1) suggested that young people are unconcerned about climate change because they have more important things to think about and it is something that they can worry about later in life. At the same time they suggest young

people, in particular, have difficulty visualising the future and even if they can, they tend to be more concerned about issues other than climate change:

- …For teenagers in general, they've got more interesting things to talk about. You know they're still young - it doesn't worry them, it's when they're older and they've really thought about it. *(Participant A)*
- Yeah like when I hear that [*her home town*]'s gonna be flooded, I'm like I don't care I won't be here. *(Participant B)*
- Yeah exactly, teenagers just think… *(Participant A)*
- …They think forward about a year maybe but beyond that… *(Participant B)*
- …We're incapable of that. *(Everyone laughs) (Participant A)*
- Well if you do think about your future you just think of yourself like in some amazing job somewhere really amazing. *(Participant B)*
- Yeah really rich and you're not worried about it *(laughs). (Participant A)*

(Group 18F(1) participants)

A number of participants also pointed to the intangibility of climate change as influencing the degree to which they feel concerned about climate change:

- If people want to preserve the environment and the animals, then they're going to have to start learning the hard way to do that, coz it's only when bad stuff happens that they learn.

(Group 11F(1) participant)

- …it's obviously bad for you not doing exercise.
- **But is that something that you think about?**
- Yeah but only if I get fat.
- **Is that the same with climate change? It would only be if something…**
- …affected me personally really. Like if some people in this country didn't have any water or something.

(Group 15M(1) participant, moderator in bold)

- It's not affecting us at the moment so we'll panic about it when it happens.
- Yeah if you're in the place where like the tsunami hit or whatever…then you'd be worried about it, you'd be like "oh what if it happens again?" but nothing's happened to us so there's nothing to worry about really.

(Group 15F(1) participants)

The intangibility of climate change is closely linked to the issue of experience in relation to climate change in that the participants have not gained information about this issue in this way. This is in stark contrast to the participants' experience of transport modes and is considered to be a key factor in relation to the participants' lack of concern about this issue.

Secondly, having been told by the other members of this group that climate change will bring warmer weather, one member of group 15M(1), commented,

> - Hotter?…Well (shrugs his shoulders), let it be then.
> *(Group 15M(1) participant)*

This is a particularly important attitude in that it appears this participant lacks incentive to change his behaviour on the basis of climate change, not only because he is unconcerned about this issue, but also because he sees this issue as having potentially positive impacts.

Thirdly, when discussing the impact of climate change on future generations, although one participant in group 15F(1) stated that she worries about how it may affect her children (believing that they may die because of it), several other participants illustrated significantly less concern. However, as discussed below, it may well be that the participants' difficulty in comprehending the time-scale of climate change influenced these comments:

> - **What about future generations, your own family?**
> - I don't care about them, they can look after themselves.
> *(Group 11F(2) participant, moderator in bold)*

> - **What about your family in the future?**
> - I just won't have any kids. And anyway, you'll worry about that when you're older.
> *(Group 15M(1) participant, moderator in bold)*

Fourthly, a number of participants suggested that climate change is not something they worry about due to the pressure of school work, or they did not worry about unless it was *linked* to school work:

- I'll probably get worried when I'm older, but I've got worse things to worry about now… It's exam week this week for us.
(Group 11M(2) participant)

- I'm not worried so much, it's like, more a case of you have to listen…otherwise you'll fail your final exams.
(Group 15F(2) participant)

- [*Climate change is*] not really a big issue. *(Participant A)*
- No not really. *(Participant B)*
- Not unless it happens to be our exam question for our homework. *(Participant C)*
(Group 18M(1) participants)

These comments are particularly important in that they suggest the pressure of exams (or homework) may take away from simply learning about climate change and it would appear that the group 11M(2) participant quoted feels that he does not have the 'emotional room' to worry about such issues while other problems occupy him in the present. This is also a reflection of the (academic) pressure young people are under, striking against the notion that young people are carefree and idealistic. Teenagers are understood to be "full of angst", but what about the problems faced by young people pre-teenage years? Not only may they find it harder to visualise the future, but perhaps people older than them are also unaware of the pressure they are under because they hold the perception that it is a carefree age. Nonetheless, it would appear that the issue of young people being academically 'over-stressed' is entering the public consciousness, in part due to the University of Cambridge (2007) interim report on the project 'Community Soundings'[202], where it was reported that UK children aged 7-11 felt scared, nervous, anxious and under pressure due to SAT exams.

At the same time this finding is reflective of a wider problem in society in that people (young or old) do not feel they have the time to worry about issues such as climate change, which are yet to be felt on a tangible scale. For example, Lorenzoni and

[202] According to the University of Cambridge (2007), this project "entailed meetings with those involved in the day-to-day work of primary schools (teachers, teaching assistants and other support staff, senior managers, heads and – notably- children themselves), together with parents, school governors, and representatives of the wider community."

Pidgeon (2005) found that the UK public generally feel a lack of urgency regarding climate change due to their uncertainty about when it will occur and their desire for modern lifestyles even if these pose a threat to the Earth's climate[203]. As such, they may suppress their concern about climate change and allow themselves to continue with their 'routine' behaviour – which in this case may include use of the car. It is this 'problem' that suggests the need for Government intervention to enforce behaviour change. This type of policy solution is discussed in more detail in Section 10.8.3.

10.6. Awareness of consequences and ascription of responsibility

In Chapter Four it was assumed that, due to cognitive changes during adolescence (Newman and Newman, 1991), young people within the age range considered by this thesis are capable of understanding that there will be consequences of their behaviour and that they are responsible for these. Previous research by Climatechallenge (2006b) reported that a third of their participants (aged 11-17) believed 'road emissions' are a cause of climate change and only two thirds of these felt that they themselves contributed to climate change in this way. In response, this thesis suggested that young people may feel a lack of responsibility in this context - perhaps because they are passengers in the car and therefore not wholly responsible for the impact of this type of transport.

Climatechallenge (2006b) also reported that the young people studied did not feel a sense of responsibility with regards air pollution, global warming, or the burning of fossil fuels. As such, it was further postulated that young people may feel a lack of responsibility due to their inability to picture the effects of climate change as affecting people other than themselves. According to the participants' comments about the timing and tangibility of climate change in the present study, this would appear to be the case. It was also suggested in Chapter Four that young people may feel a lack of concern and/or responsibility with regards transport and climate change due to their belief that the problem of climate change will be solved by the time they will be driving (DETR, 1999), although findings such as this were not elicited from the participants involved in the present study.

[203] A phenomenon that Lorenzoni and Pidgeon (2005) refer to as the 'perception-attitude gap' as distinct from the 'attitude-behaviour' gap.

However, the majority of participants did indicate that they feel a lack of responsibility with regards transport and climate change and a number of explanations as to why this is the case were identified (due either to self or moderator prompting). Firstly, participants in groups 18M(1) and 18F(1) suggested that, despite being aware of the consequences of climate change[204], they do not consider the idea of taking responsibility for this when making their transport decisions due to the *inconvenience* of doing so:

> - I don't get up in the morning and think yeah I'll walk to school to help the environment. *(Participant A)*
> - Yeah it's always about convenience in that moment. *(Participant B)*
> - You do it because that's the easiest way to get to school. *(Participant C)*
> - Yeah, like I'm a bit late I'll ride my bike…or I'm going to go in my car. *(Participant B)*
>
> *(Group 18M(1) participants)*

> - It's pretty selfish but I'd rather drive. *(Participant A)*
> - Yeah, coz it's what's best for you though isn't it? *(Participant B)*
> - Yeah. *(Participant A)*
> - It's what it comes down to, how easy it is for you to get from A to B…and that's by a car. *(Participant B)*
>
> *(Group 18F(1) participants)*

Comparably, a member of group 18M(1) suggested that a large proportion of people understand the consequences of their transport behaviour, but the "hassle" of changing their behaviour means they do not take responsibility for it,

> - …There's like two groups of people really I think. There're people that need to drive and people that just want to drive, which is most of them and I just think that that's the main problem. People that want to do it, and I reckon know it's bad on the climate, but can't be bothered to actually walk or do different means of travel, rather than driving, because it's a hassle.
>
> *(Group 18M(1) participant)*

[204] Although as noted in Section 10.2, they do not have an entirely sound understanding of such consequences.

In explaining why they do not take responsibility for the impact of their behaviour on the environment, the participants in group 15M(1) point to the important influence of the social norm:

> - I would do if more people were doing it. And then I'd start doing it. Coz then we could all do it together. But… *(Participant A)*
> - …No one seems to be doing anything. *(Participant B)*
> - Yeah doing anything. So it doesn't really encourage us to do anything about it. *(Participant A)*
> *(Group 15M(1) participants)*

These comments also illustrate the influence of the 'Social Dilemma' referred to previously (and introduced in Chapter Two) in that these participants are not prepared to change their own behaviour until others do the same.

Of further note were comments made by a member of group 18F(1). In response to the question of whether she feels a sense of responsibility to tackle climate change, she suggested that even if everyone wanted to take responsibility, making changes is impossible due to the way in which society (and the UK's transport system) has developed,

> - I think everyone's responsible but it's just the way the world is now that we have to do things a particular way. We can't suddenly close down all the factories and get rid of all the cars, we can't live like that. It's just coz of the way it's developed.
> *(Group 18F(1) participant)*

In this sense, it could be suggested that she is using cognitive dissonance to align her own current and future intended behaviour (which is to continue driving) with this stated attitude. Similarly, a member of group 18M(1) attempted to justify his intention to learn to drive by suggesting that the UK's use of the car is less excessive than other countries,

> - We're probably not the worst culprits, China's probably the worst isn't it? Their people, or race or whatever. There's lots of them and they're all driving cars.
> *(Group 18M(1) participant)*

However a number of participants, through self-prompting, suggested that further action should be taken to provide them with the means to take responsibility for the impact of their behaviour on climate change by those in a position to do so. For example, participants in groups 18F(1) and 18F(2) referred to the need for local or central Government to provide bins in order for people to recycle. Specifically in relation to the link between transport and climate change, a member of group 11F(1) expressed her belief that members of society will not change their transport related behaviour (towards that which is more environmentally friendly) unless they are forced to do so, and therefore the Government should implement such changes,

> - I don't think many people would really do it because they would think "oh I can't be bothered" and that. I think it would be better if the government did that.
> *(Group 11F(1) participant)*

In this sense it would appear that the participants are willing to take responsibility for their actions, if they are provided with the means to do so, and/or forced into it. These issues are discussed in more detail in Section 10.8. Before doing so however, the following section considers the influence of control beliefs on the participants' willingness to tackle climate change.

10.7. Control beliefs - self-efficacy

As discussed in Chapter Four, if people lack self-efficacy with respect to achieving a given objective they are less likely to achieve it. It was also noted that young people are particularly prone to a lack of self-efficacy (or feelings of powerlessness) when it comes to tackling climate change (Climatechallenge, 2006; MORI, 1998; Connell et al., 1999). One aim of the present study was to investigate why this is the case – particularly from the perspective of changing travel behaviour intentions in light of the impact of transport on climate change. Overall it was found that, when prompted to

consider whether they feel a sense of power as an individual in this context, the majority of participants expressed a lack of self-efficacy in this context for a variety of reasons.

Most prominently, the participants referred to the impossibility of affecting change as an individual:

> - There are little things you can do, but nothing that will change the world, because individually we're only little people.
> *(Group 11F(1) participant)*

> - I'd like to change it. But I know I wouldn't be able to, just me. If I really tried I know that I would just be wasting my life trying to do one thing I knew I couldn't change.
> *(Group 11F(2) participant)*

> - You're there thinking I really should ride my bike but I won't because…I think me riding a bike's not gonna make any bit of difference.
> *(Group 18F(1) participant)*

It became clear that a number of the participants believe that, if they were to make efforts to tackle climate change, the rest of society may not do the same, rendering their own efforts pointless. In this sense it would appear that these participants are aware of the 'Social Dilemma' (Garling et al. 2002) referred to in Chapter Two - people are not prepared to change their own behaviour until others do the same:

> - I don't think many people would really do it. Because they would think "oh I can't be bothered" and that.
> *(Group 11F(1) participant)*

> - Well there's stuff you can do to stop it happening any more but like, no one's going to stop using their cars so much because they think one car's not going to make a difference. And like America isn't going to stop using all their fuel or whatever, and burning everything up.
> *(Group 15F(1) participant)*

- Even if only one person doesn't stick to it, another person's gonna think they're not doing it so I won't do it and then it will just go on and on like that until nobody's actually doing it.
(Group 18F(1) participant)

It was postulated in Chapter Four that the participants' sense of self-efficacy may be influenced by the attitudes of older members of society towards them. Although this issue was not discussed in great detail by the participants in the present study (despite prompting by the moderator), a small number in group 15F(2) did point to this factor and the impact it has on their feelings of self-efficacy as a young person:

- **So if you wanted to make a difference [*to climate change*] do you think your voice would be listened to?**
- No. Because we're kids. No one listens to kids these days.
- Yeah coz everybody thinks teenagers are trouble. Especially old people like grannies and stuff. That's not meant to be offensive but they do.
(Group *15F(2) participants)*

A member of group 18F(1) expressed a similar belief with respect to the perception held by 'adults' of young people, but here she comments that young people are simply ignored by those older than them,

- We can say what we want I suppose, but they'd just probably say, you know, "you're just teenagers, whatever" *(she gestures with her hand as if to dismiss)*.
(Group 18F(2) participant)

In addition to adults, two members of Group 18M(1) suggested that the feelings of powerlessness to tackle climate change are in part caused by individuals being unaware of the power they do have:

- You think that whatever you do is not going to affect things that much.
- Exactly, everyone thinks that and that changes everything because now everyone's polluting.
(Group 18M(1) participants)

In this sense it appears these participants are aware of the ideas encapsulated by the "Tragedy of the Commons", popularized by Hardin (1968). This concept refers to the idea that free access to a resource (in this case the Earth's stable climate) will lead to its destruction through over-exploitation. This occurs due to *all* individuals believing that the destructive impacts of their own behaviour are too minor to be of significance – thus the resource is lost due to collective selfishness.

Finally, a small number of the participants suggested that the chance to affect climate change has been lost, or that efforts to tackle it now will be defeated by natural changes to the climate in the future. As such, it would appear they consider individual power in this context irrelevant:

> - If it happens it happens dunnit? We can't do anything.
> - There's nothing we can do about it now if you know what I mean, it's happened.
> *(Group 15F(1) participants)*

> - In one way if you think about it, all the damage done to the Earth, even if you stop now, even if every single person recycles, the world's too damaged already, all its resources are used up already. If you think about it really, nothing's going to save the Earth now. It's just going to blow up when the sun dies.
> *(Group 15M(2) participant)*

Importantly, although these young people appear not to blame anyone for climate change, two of the participants in group 15M(2) suggest that they resent being left with the responsibility of dealing with this issue:

> - Coz like everyone like the older generation, they're saying it's all on us now, you've got to save the world isn't it?
> - Yeah, like they've crapped it up, now we've got to fix it.
> - Yeah, it's like it's your problem, you've got to fix it.
> *(Group 15M(2) participants)*

This particular issue was self-prompted by the participants and confined to this group. Had it arisen in the first focus groups undertaken it would have been added as a

specific line of questioning. It is held this would have been an important issue to investigate further.

10.8. Willingness to tackle climate change

10.8.1. Introduction

At this point it can be said that the vast majority of the participants lack a sound understanding of climate change, a number lack confidence in the understanding they do have, and the majority expressed a lack of concern or feelings of responsibility with regards this issue (despite understanding that climate change is a serious environmental issue). In turn they feel a lack of self-efficacy with respect to tackling climate change. In this sense all of these issues are likely to contribute to a lack of willingness to tackle climate change and/or make changes to current/intended travel behaviour.

With this in mind, this section discusses the extent to which the participants do (or do not) appear willing in this context. In doing so, an important distinction can be made between their willingness to tackle climate change through voluntary changes to their current and, more importantly, intended travel behaviour and their willingness to tackle climate change through enforced travel behaviour change via government policy in particular.

10.8.2. Voluntary behaviour change

Chapter Four reported that young people have been found to be unmotivated by 'environmental issues' with regards their transport behaviour (Mackay, 1997; Lex Report on Motoring, 1999), however a less 'clean-cut' set of findings was elicited by the present study. Initially the participants illustrated significant enthusiasm when asked (via moderator- or self-prompting) to consider how they believe climate change could be tackled, including reference to the importance of changing current/intended travel behaviour. Participants in groups 18F(2) and 18M(2) suggested individuals could educate their neighbours with regards climate change, both by what they say and what

they do. In this sense these participants appear to recognise the importance of modelled behaviour, as well as ways in which they themselves could provide such a model:

> - We could try and like talk to a few neighbours about climate change, like the ones around us and just get them to understand…make more people walk.
> *(Group 18F(2) participant)*

> - If you do the best you can with [*climate change*], people might copy you or ask you about it, like why you're doing it. You could then try and tell people about it and show them how. That's good.
> *(Group 18M(1) participant)*

In addition, a member of 18F(1) stated that she has already tried to persuade her father to change his behaviour, thus illustrating the latent power of young people as an influence on the behaviour of their parents:

> - I'm trying to stop my Dad from having a bonfire, because that obviously releases CO_2. But I've got him to recycle quite a lot of leaves and everything onto the compost heap, because if you burnt it all that wouldn't be very good.
> *(Group 18F(1) participant)*

This comment highlights the potential for using the same information about climate change given to young people, to educate parents in turn. However, as noted by DHC (2003),

> "…it is important that parents understand the message and don't feel threatened by it." (DHC, 2003)

If education is to work for both child and parent, parents need to be involved with what is being learnt at school by their children, so that they can reinforce such messages at home (both verbally and in their behaviour). In addition, it was noted in Chapter Seven that the role of other family members (including siblings) should be taken into consideration. Consequently, a key finding and conclusion of this thesis is the need to take a holistic approach to engaging with, and educating, society about transport and climate change.

A number of participants also discussed using more environmentally friendly modes of transport (than the car) in order to tackle climate change, although they were not enthused at the idea of walking and cycling, with the participants in group 18F(1) even laughing at this idea. With respect to the bus, there were contrasting views, both between and within the groups - although the majority of opinion was that the bus is more environmentally friendly (in relation to its contribution to climate change) than the car:

> - If people who took the bus took the car, if they took the car instead, that would make more pollution, because if there were 20 people on the bus, and they didn't take their cars, there would be less pollution from cars.
> *(Group 11M(1) participant)*
>
> - People probably think it's more…like letting out more pollution and stuff… But it's not really because it carries more people…like twenty cars of twenty people.
> *(Group 15M(1) participant)*
>
> I reckon like public transport, like buses, that would sort of take away the need to drive everywhere, that's probably the best thing.
> *(Group 18M(2) participant)*

However, despite these participants recognising that the bus is potentially more environmentally friendly than the car[205], they also indicated in Chapter Nine that they would prefer to use the car in favour of this mode for other reasons, such as image, cost, speed and reliability.

The train was also mentioned, but only by one participant – perhaps reflective of the limited use of the train by the participants overall. Although initially positive, the comments made in this respect indicated a negative perception of, not only the train, but public transport in general - due to its contribution to climate change:

[205] If, as highlighted in Chapter Two, you are comparing a bus and car on the basis of average occupancy.

- …it doesn't seem like much pollution's coming out…really. Coz like the news is never saying that trains are bad, it's always cars that are bad. But then, it's probably the same actually…it's public transport.
(Group 15M(1) participant)

More positively, participants in group 18M(1) discussed using modern technology such as teleworking and internet shopping to reduce the need to travel at all:

- They could improve like the internet and like phone mobile phone network 3G stuff and things so in the end I don't think you'll actually need to travel as far. You won't need to travel as much in the future.
- **Do you mean teleworking and stuff, so people work from home?**
- Yeah I don't think you'll need to, and to buy stuff, like I buy a lot of stuff over the internet already so it's just a lot easier *(the other participants agree)*.
(Group 18M(1) participant, moderator in bold)

Further to these suggestions, and considering the participants' affection for the car and intention to continue driving or to learn to drive in the future (as discussed in previous chapters), it is perhaps not surprising that the participants also discussed making changes to the car itself, changes in their use of the car, but not removing use of the car altogether. For example, many of the participants suggested increasing the use of alternative fuel vehicles - those in group 15F(2) suggested the use of "solar panel cars", participants in group 18M(1) pointed to the use of "hybrid" cars, and a member of group 18M(2) explained that "fuel cells" and "bio-diesel" may be the answer. Similarly, in written response to her photo shown below (Photo 12, page 275), a member of group 11F(2) pointed to the potential of hydrogen fuelled cars,

- To help England to make the choice of using the same type of cars Iceland are developing fuel that uses hydrogen and is clean and will NOT pollute anything as it turns into water.
(Group 11F(2) participant)

Photo 12: Taken by a group 11F(2) participant

Further, participants in group 11M(2) suggested that "green cars" may be part of a more environmentally friendly transport system, as did a member of group 15M(1) – but only if they "work the same as normal cars." By referring to 'normal' cars, it is assumed that this participant believes alternative fuel vehicles to be 'abnormal'. This belief is similar to those discussed in Chapter Nine in relation to the image participants' link with bus users - in that they do not want to be seen as abnormal by using this mode when they are able to drive in the future. It is thus suggested that if these participants consider alternative fuel vehicles as abnormal (not the social norm with respect to the cars other people use), then they will not want to use one as a result.

Reducing the number of cars per household, and car sharing were also noted as ways to tackle climate change by a number of the participants. For example, those in group 11F(2) agreed that people should only be allowed "one car per family", and a member of group 18F(2) commented that there should be "more car-sharing", particularly when "there's only one person per car." A group 15F(2) participant revealed similar sentiments, although the other members of this group recognised the problems of implementing such a scheme, as did a member of group 18M(1):

> - You could always make sure that you are sharing cars rather than using one each and stuff…and like restricting families to just one car rather than two or more. *(Participant A)*
> - **Would they be things that you would accept?**
> - Not all the time if like, your family had two working parents they may need like two separate cars. *(Participant B)*
>
> *(Group 15F(2) participants, moderator in bold)*

- With car pooling though, you can't exactly car pool with strangers.
(Group 18M(1) participant)

Reducing 'less necessary' use of the car was also touched upon by a number of the participants:

- I think if every one did their little bit it would help. If everyone did their little bit say like walking to the shops rather than driving just the short distances, if everybody did that then I think that would make a big difference.
(Group 18M(1) participant)

- I think it's do things in moderation as well, like don't use your car excessively, so still walk. I think people use their cars too much, so if they just walked to the shops or something, that would help.
(Group 18F(1) participant)

- I would like to drive myself but like only when I need to drive. …If it's not that far away like from here to say *****, and it's like a hot day, I would like to walk, coz that's better.
(Group 11F(2) participant)

Nonetheless, despite the participants making these suggestions, all of the young people involved in this study are already driving, or intend to drive once they reach the age of licence acquisition. This in itself would suggest that the impact of the car on climate change (via CO_2 emissions) does not provide a strong enough incentive to deter them from driving, whether they are fully-informed about this issue and state that they are willing to tackle climate change or not. More importantly, the majority of participants indicated the same when discussing this aspect of car-use directly, revealing that climate change (and the contribution of transport towards it) does not act as an incentive to change their current, or future intended travel behaviour. For example, members of group 18M(1) commented:

- I wouldn't buy a certain car to help the environment or anything, I don't really care that much. My decisions aren't going to be swayed because I'm damaging the environment. It's only me. …It's never in my mind for long. If I think shall I

> drive or should I walk it's never to do with the environment. It doesn't affect what I choose.
>
> - If I had a car I'd still walk to school…because I kind of enjoy walking to school, it's not because I think if I drive a car I'll affect the environment. …Walking gives you exercise and that, and you may be thinking I'm helping the environment a tiny little bit, but it's never the first thing you think about.
>
> *(Group 18M(1) participants)*

The latter comment is also of note in that this participant does not attempt to take the 'moral high-ground' by claiming that protecting the environment is the reason he chooses to walk. However, later in the discussion it would appear that the opposite is the case for another member of this group, who explained that when people ask what he does to help the environment he replies that he walks to school, even though the environment has nothing to do with his decision in this context. In this sense, it is important that he recognises that walking is more environmentally friendly than using the car for this journey, but equally important that the environment does not influence this decision.

Similar comments were made by the participants in group 18F(1) when choosing to cycle, walk or use the car:

> - …when you go to ride a bike you think, you don't think "ooo global warming" you think "I'm gonna be knackered at the end of it". So I don't know, it's still easier to get in the car even though you know it's affecting the world.
>
> - …if the car's just sat there……and you know no-one's gonna use it and you've got the keys in your hand you think walk or the car *(gesturing the two options with her hands)*? Mmmmm…it's the car all the time. The environment doesn't come into it.
>
> *(Group 18F(1) participants)*

Further, two participants in group 15M(2) suggested that their decision to drive could be targeted in light of tackling climate change, but also stated that the desire to drive would be a stronger influence:

- **Do you feel there is anything you can do about climate change?**
- Not at the moment coz we can't do anything. But when we get to eighteen and stuff and start having cars and things, I don't know. I think all of us want a car…but whether we should is another issue. But then, you want to drive so you just will anyway (*the other participants nod and laugh)*.
(Group 15M(1) participant)

10.8.3. Enforced behaviour change and the right to drive

It was reported in Chapter Four that although there was some support for transport policy aiming to reduce the impact of transport on the environment (although no more than 40% of young people agreed with any one policy), young people were generally defensive of their right to retain their use of the car (Lex Report on Motoring, 1999). Similar findings were made by the present study, although their 'negative' responses to such policy were often more complex. In this sense, the following findings add to the current evidence base in this context.

In exploring these issues, all of the groups in the present study were prompted by the moderator to consider how they would feel if the Government were to introduce policies that meant they were forced to change their transport behaviour (using the example of reducing 'less necessary' use of the car, as opposed to removing use of the car altogether, as a policy goal) in light of the impacts of transport on climate change, and therefore take responsibility for the consequences of society's current travel behaviour. In this sense they were also being asked whether they would give up their freedom of choice (in this context) in order to tackle climate change for "the good of society" - in that such large-scale behaviour change would benefit society in the long-term.

Responses to this question were mixed, both within and between the groups. Participants in group 11M(1) unanimously agreed that such an idea would "never work", whereas one member of group 11M(2) stated that such a policy would not "bother" him. The participants in group 11F(1) were split – two members of this group did not see such a move as a problem, but the remaining members did. In this case this difference was perhaps reflective of the modes of transport by which the two 'pairs'

of respondents most often travel to school, which for the former pair is walking and cycling and for the latter, the car.

More conclusively, in answer to the same question, a member of group 15M(1) claimed,

> - It would be bad I think but it would be better for the world.
> *(Group 15M(1) participant)*

It would therefore appear that this participant appreciates the environmental benefits of such action, but also recognises the difficulty of implementing it. He also commented on the positive impact he believes it would have on his own transport behaviour, suggesting that he would not change his behaviour otherwise:

> - **So you do have a sense of responsibility then?**
> - Yeah but only if there's a ban I would just go out of my way to just to ride and walk.
> *(Group 15M(1) participant, moderator in bold)*

However, when he was asked how his family would cope if they had to reduce the level of driving they currently do, he indicated that it would cause a problem "coz they just drive everywhere". Nonetheless, he continued to state that there should be "some sort of a ban on cars" despite the significant impact this may have on his family. This participant also explained that, from his own point of view and that of other young people his age, reducing the amount they are able to drive in the future, would not pose a problem because they do not yet drive,

> - We don't really mind coz we don't drive so it wouldn't affect us, but our parents won't be used to it because they're driving all the time. So if a ban comes in we'd be used to it because we never drive.
> *(Group 15M(1) participant)*

This comment is particularly important with respect to the *experience* of driving and the habit (or automatic behaviour) of driving in the future, in that this participant has not yet had the opportunity to learn to drive and therefore believes he would not miss it. Whether this is the case for the other participants not yet able to drive is unknown as

this idea was not discussed by any other participants in the study. At the same time however, it is also important to note that this participant did refer to his desire to drive in the future, suggesting that his comments, in either respect, may have been influenced by impression management.

The possible impact of enforced transport-behaviour change on family members was also considered by the participants in group 15M(2) and they all agreed that it would depend on "how they bring in the restriction", and whether there was "another form of transport to use" instead of the car. However, whereas two of these participants were relatively positive about this idea (with respect to their own ability to drive in the future), another member of this group was concerned about a possible public backlash. Despite this, he went on to link this type of policy to the potential health benefits of reducing society's use of the car:

> - Actually, like if you live only two to three miles away from your work it should be that you can't use the car because walking won't take that long will it? *(The other participants shake their heads)* For me to school is one and a half miles and it takes me twenty or thirty minutes, you know. So like an hour's walk that's good for you isn't it, like ten thousand steps a day. So it would be good in two ways isn't it?
> *(Group 15M(2) participant)*

Similarly, a driver from group 18F(2) considered such a policy would be a positive idea because it would encourage her to do exercise,

> - I think it would probably help me, because sometimes I get up and I think oh I can't be bothered to walk. But if you had to do it then you've got to haven't you? So you haven't got the option.
> *(Group 18F(2) participant)*

Also in support of enforced change, but here due to their belief that such changes will become inevitable anyway, members of group 18M(1) strongly asserted their belief that choice should be taken away from individuals (and therefore responsibility forced upon them) for the good of society (here, participant A is able to drive):

- I think they should be forced into it personally that's the only way they'll ever get anything done. *(Participant A)*
- Yeah definitely or nothing's going to happen otherwise. *(Participant B)*
- I think some people may want to help the environment but they don't do anything about it but then again if they were forced to then they'd have to. I think that people have to want to do it but I think some people want to do it but just don't do anything about it. Some people just don't do anything about it until they're forced to do it. The only way to get something done properly is if you're forced to do it. I mean eventually it's going to happen anyway. It's going to come to a point in time where there's going to be a ban on cars or something because the population's expanding and everyone's going to be buying cars there's just going to be no feasible way they can have all the cars on the road. *(Participant A)*

(Group 18M(1) participants)

However, not all of the participants' responses to the idea of enforced behaviour change were so positive. For example, although one member of group 15F(2) considered that allowing everyone the choice to drive and own a car can lead to selfish behaviour[206], she also indicated that she "wouldn't like it" if her choice to use the car was taken away from her. Members of group 18F(2) also highlighted potential problems with such a policy, despite agreeing with the principals behind it :

- I think it would just cause havoc. People will not be for it. I think it's a brilliant idea because you do need to limit the amount of driving people do, but it's just if you had to make a sudden trip and you don't have any miles left on your allotted amount or something, what are you going to do?
- Yeah, the thing is you wouldn't be able to experience anything, say like two hours away if you have to walk. Because, say you wanted to see relatives, and it takes about two hours to get down there. You can only really go by car. I suppose we could go by train or whatever, but that's just a faff if you want to take like all your food down and all your luggage *(the other participants nod)*. I think the car is just the easier.

(Group 18F(2) participants)

[206] Explaining that, "The family over the road, like over the road from me, they have like five cars. It's stupid and selfish."

Participants in group 11F(2) and 18M(1) indicated that they would not want to forgo their ability to make their own decisions with regards the mode of transport they use:

> - …if I want to drive, I don't want to not be able to coz I have to not do it.
> *(Group 11F(2) participant)*

> - I don't want to be forced into changing my mode of transport. *(Participant A)*
> - No I think you have to want to change rather than, you can't be forced to. *(Participant B)*
> - They can put a big effort into like helping people make the right decision but they shouldn't make people make the decision. If they put everything behind buses and make them really reliable and cheaper and everything I think more people would want do it but I don't think they should force people to do that. *(Participant A)*
> *(Group 18M(1) participants)*

Overall, drawing conclusions from the findings presented in this section is somewhat complex. However, it can be said that, although the participants did not universally agree with the idea of enforced travel behaviour change, participants from each age group and gender stated their support for such a move, as did a number of the participants able to drive. In turn, due to the line of questioning (i.e. "how would you feel if *your* ability to drive was restricted in some way?), participants also referred to their own car trips, as well as those they assume they will need to take in the future. Further, a number of the participants referred to the negative impacts of such policy on the car-use of other people, but their continued desire for enforced behaviour change – an unexpected insight on the part of the present researcher. In this sense, a lack of willingness to make changes to travel behaviour (in light of climate change) voluntarily, *but* a willingness to accept enforced behaviour change is of great importance to those attempting to develop transport policy. The implications of this finding are discussed further in Chapter Eleven.

10.9. Summary and discussion

The purpose of this chapter was to establish whether the participants' willingness to tackle climate change acts, or has the potential to act, as an influence on their current

or, more importantly, future intended travel behaviour. In light of this, the chapter began by exploring the participants' understanding of these issues. In doing so it was found that, in agreement with Climatechallenge (2006b), the majority of the participants recognised the concept of climate change and understood that it refers to a serious environmental issue. A number of participants also illustrated an understanding of the potential impacts of this issue and it was found that with increasing age the participants' comments reflected a higher degree of understanding, most likely due to the information they have gained via GCSEs and A-Levels – as highlighted in Chapter Eight. In reference to this understanding, the participants expressed a range of beliefs similar to those identified by Climatechallenge (2006b). As such, the majority of participants believe that climate change will bring warmer or hotter weather, and/or the melting of ice, and/or flooding, and/or more extreme weather events, although there was some variation in the details given - which at times appeared somewhat exaggerated or misinformed.

Similar to those findings reported by Boyes and Stanisstreet (1996), Climatechallenge (2003) and Koulaidis and Christidou (1999), a small number of the participants in groups 11M(1) and 11F(1) also incorrectly assumed that there is a link between climate change and ozone depletion. Further, and in addition to the literature, about half of the participants incorrectly suggested that it is the 'smoke' emitted by motor vehicles that is the key factor. Nonetheless (and also adding to the current evidence base) it was found that a number of the participants were aware of the potential of fuel efficiency and alternative fuels in reducing greenhouse gas emissions. A small number also referred to the importance of international politics in relation to the difficulties of reducing our dependence on oil.

Overall it was felt that the majority of participants' sophisticated understanding of climate change was fairly poor - particularly in relation to the link between transport and climate change. It was also found, in contrast to the findings reported by Climatechallenge (2006b), that a small number of participants had no understanding of what is meant by the concept of climate change (with respect to how it will affect the world, the UK or themselves), often blaming a lack of information provision for this. In addition, through an exploration of the participants' confidence and interest in climate change, it was found that, although the majority of participants were both enthusiastic and interested in discussing this issue when prompted (in contrast to those suggestions made by Furnham and Gunter, 1987; Kimberlee, 2002; Mardle and Taylor, 1987; Park,

1995), a lack of confidence and confusion were key influences on the comments elicited. As such it can be said that not only do the majority of participants lack a sound understanding of climate change, but many also lack confidence in the understanding they do have.

Nonetheless it was also found that several of the participants recognise that they, and other people, require further information with respect to tackling climate change – either because they feel they do not receive enough information, or because they feel the information they do receive is not what they require in order to feel empowered to tackle this issue. As such, the majority of participants were asked to think about how information about tackling climate change may be best provided to them. In response, a number of different methods were discussed - including "speakers in school", "leaflets", "television adverts" and 'shock tactics', although only by a small number of participants. A more substantial number referred to the need to simplify information about climate change, which links to comments made in Chapter Eight in reference to the participants' ability to recall simply messages relating to a television campaign about saving energy.

However, despite expressing a need for further information about climate change, it was found that the majority of the participants lack any real concern with respect to the potential impacts of this issue - mirroring those findings reported by Climatechallenge (2006b). In explanation, a number of participants referred to the timing and intangibility of climate change, and also suggested that climate change was not something they worried about due to the more important pressure of school work.

It was also found that the participants' lack of self-efficacy with regards their ability to tackle climate change is crucial to their travel intentions in light of this issue, mirroring those findings reported by Climatechallenge (2006), MORI (1998), and Connell et al. (1999). However, in addition to the current evidence base, a variety of reasons for these feelings of powerlessness were identified by the participants, including:

- Their belief that tackling climate change is a task impossible to carry out by individuals alone.
- If they attempted to tackle climate change themselves, the rest of society may not do the same, rendering their own efforts pointless. In this sense it would appear

that the participants reflect the problem of the 'Social Dilemma' (Garling et al. 2002) referred to in Chapter Two.

- People older than them do not listen to them, thus their ideas and efforts to tackle climate change would be ignored.
- A lack of transport choices means tackling climate change via a reduction in use of the car is particularly difficult.
- People are unaware of the power they do have.
- The chance to tackle climate change has been lost.

It was also found that the participants, although aware of the consequences of their current and, more importantly, intended travel behaviour (with respect to climate change), did not feel a sense of responsibility for this – reflecting those findings reported by Climatechallenge (2006b). Again adding to current understanding, a number of explanations as to why this is the case were drawn out (due either to self or moderator prompting), including the inconvenience of taking responsibility for their behaviour and (again) the importance of the Social Dilemma (i.e. others do not take responsibility so why should they?). One participant also suggested that, even if everyone wanted to take responsibility for their contribution to climate change, making changes to their current/intended travel behaviour is impossible due to the way society (and the UK's transport system) has developed.

Together these findings suggest that the participants are unwilling to tackle climate change through, amongst other means, making changes to their travel intentions (away from use of the car towards use of more environmentally friendly modes). Further, in exploring this personal moral norm specifically, it was found that although the participants showed enthusiasm and interest in discussing the ways in which they believe climate change may be tackled voluntarily (including utilising modelled behaviour; making better use of the bus; removing the need to use the car for some journeys via teleworking and internet shopping; increasing the use of alternative fuel vehicles; reducing the number of cars per household; car sharing; and reducing less necessary use of the car), reflecting those findings reported by Mackay (1997) and the Lex Report on Motoring (1999), climate change did not act as an influencing factor with respect to their own current and future intended travel behaviour (which is dominated by use of the car).

On the other hand, the participants' responses to enforced behaviour change (through transport policy) were more positive. It was reported in Chapter Four that although there was some support for transport policy aiming to reduce the impact of transport on the environment (40% of the young people questioned agree), young people were generally defensive of their right to retain their use of the car (Lex Report on Motoring, 1999). Again, similar findings were made by the present study, although their 'negative' responses to such policy were often more complex (for example, they pointed to concerns about people needing to travel too far to be able to rely on cycling and walking alone and an inadequate public transport system). Nonetheless, in response to the question of how they would feel if such transport policy led to an enforced reduction in their ability to drive in the future a number of participants suggested that this would be a positive move in tackling climate change and that without such forced behaviour change, they and other members of society would not change their behaviour. A small number of participants also suggested it would encourage them to take more exercise, thus pointing to the potential health benefits of such a policy.

Overall, with these findings in mind, a number of key conclusions can be made. Firstly, there is room for improving the understanding of climate change amongst these participants, the link between this and their current/intended travel behaviour, and what they themselves can do to tackle this issue. At the same time, the participants indicated that more information is something they require and desire. However, considering the lack of concern the participants expressed with respect to transport and climate change, the question remains as to whether they would change their travel behaviour voluntarily, once they gain the ability to drive. In this sense, it would appear that the participants lack a willingness to tackle change via voluntary changes in their current and future intended travel behaviour – most likely due to the positive attitudes and beliefs they hold with respect to the car in favour of more environmentally friendly modes (in line with their values, as discussed in Chapter Nine).

Nonetheless, one of the most important findings of this thesis is the willingness of a number of the participants (of all ages, each gender and including those able to drive) to accept and even welcome enforced behaviour change in light of reducing the impact of their (and others) travel behaviour.

On returning to the literature, previous studies have found that adults respond to enforced behaviour change, on the basis of environmental protection, in much the same way. According to Newhouse (1990), Axelrod and Lehman (1993) and Eden (1995), an individual's willingness to act is affected by two primary motivators:

1. Knowing that everyone is equally engaged in taking responsibility for environmental activities and no one is reaping the benefits of others' actions while not acting themselves.
2. Receiving positive feedback about the impacts of personal actions.

Further to this, research undertaken by the Centre for Sustainable Development (CfSD) at the University of Westminster examined how it might be possible to measure, promote and implement sustainable lifestyles. As part of this study, four focus groups (with adults of both genders) were carried out in London and rural Lancashire. From these it was found that, although people may resist a move toward a more sustainable lifestyle,

> "…the message that environmental change is the responsibility of all appears to have been accepted. All groups acknowledged that they needed to play a part although some individual group members maintained that they would not take voluntary action." (Bedford et al., 2004)

In this sense it appears that a number of these participants consider enforced behaviour change to be a prerequisite of their own behaviour change - it removes the problem of the social dilemma, which a number of the young people in the present study referred to as a reason not to make changes voluntarily. With respect to the aims of this thesis, it would therefore appear that there is potential for utilising willingness to tackle climate change when attempting to influence their travel behaviour intentions via enforced behaviour change.

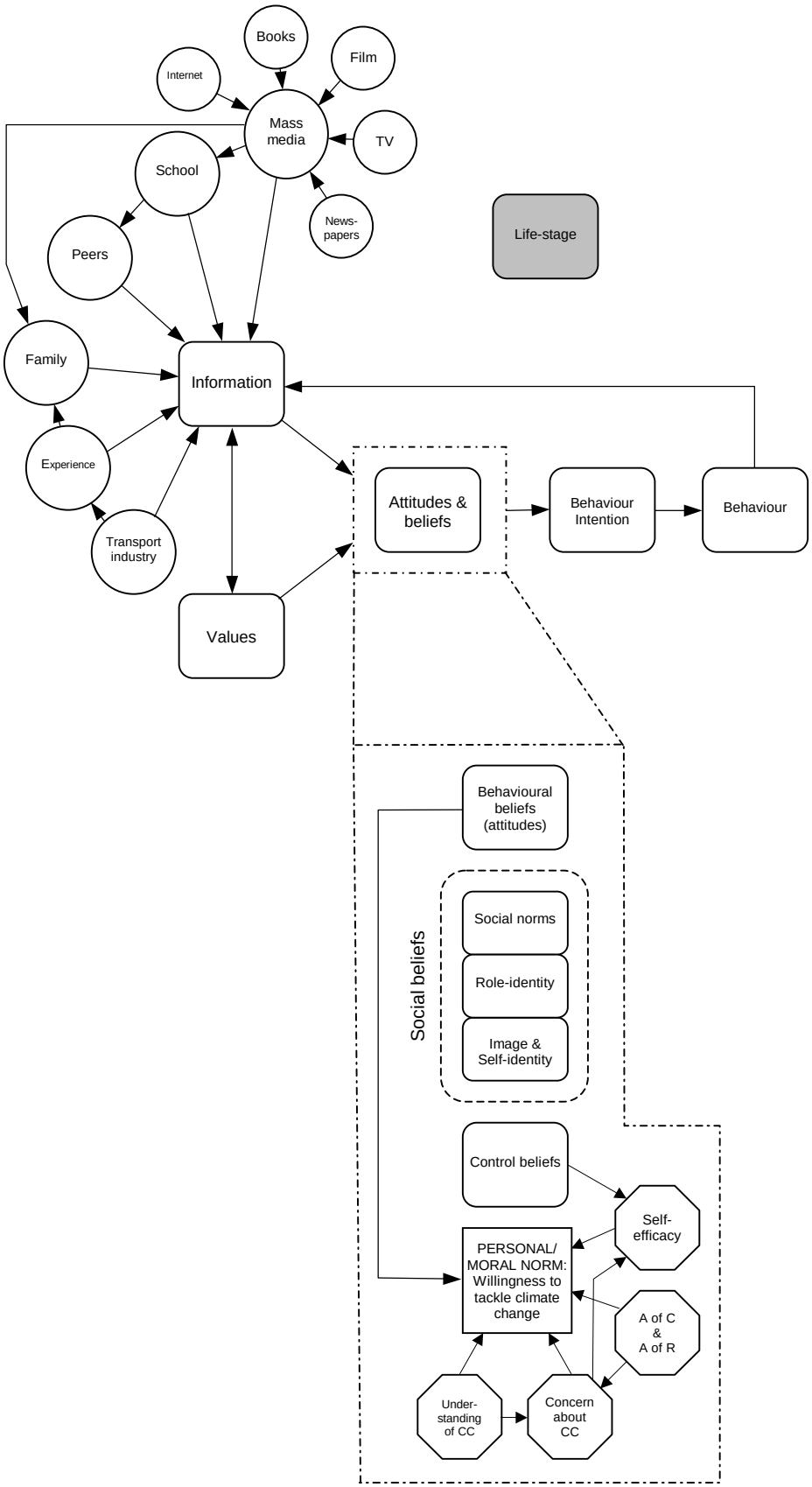
10.10. The research framework

By adding the findings presented in this chapter to Figure 14 (page 289), this can be considered the final research framework. As such it is held that, in addition to those

concepts discussed in Chapters Eight and Nine, willingness to tackle climate change poses as a personal/moral norm relevant to the participants' attitudes and behaviour towards transport and climate change. As such, this particular personal/moral norm is influenced by concern about climate change, understanding of climate change (which, as established in Chapter Eight, is based on information and signals part-received from school, family and the mass media, but not from experience – due to the intangibility and timing of climate change), awareness of consequences and ascription of responsibility (abbreviated to A of C and A of R), and control beliefs – in particular self efficacy (which, as highlighted previously, is directly influenced by concern about climate change). It is also influenced by attitudes towards transport modes (both in relation to cognitive and emotional responses towards the same) in that personal moral norms about what is right and wrong are usually in the context of behavioural beliefs about the outcome of performing in a certain way.

As highlighted in Chapter Seven, it is recognised that the results of this study cannot provide the entire picture with regards the attitudes and behaviour of the participants towards transport and their willingness to tackle climate change. However, with respect to the current evidence base regarding this area of research it can be said that the findings presented in this chapter, as well as those explored in Chapters Seven, Eight and Nine, have provided new and useful insights in this context. With this in mind, the following chapter gives attention to the implications of these findings before outlining the key contributions to knowledge made by this thesis.

Figure 14: Research framework - factors influencing attitudes and behaviours towards transport modes and willingness to tackle climate change



Chapter Eleven
Summary and Conclusions

11.1. Introduction

This chapter begins by presenting a summary of the research findings. With these in mind, a discussion of the similarities and differences between the research framework and the theoretical frameworks reviewed in Chapter Three is then presented. The framework will not be evaluated in this sense (remembering that it is a guide to the research findings and not the conclusion), but instead used to establish the degree to which each theoretical framework (or parts thereof) may be used to explain the findings elicited by this study and, in turn, the extent to which they have added to such theory. The following sections then consider the key findings and the implications of these with respect to the current evidence base and how they may influence transport policy and educational campaigns (aimed at influencing young people away from an intention to use the car and towards use of more environmentally friendly modes). The key contributions to knowledge made by this thesis are then presented, followed by an account of where further research in this area may be best placed.

11.2. A summary

As illustrated in Chapter Two, although a controversial issue (with respect to providing conclusive evidence), climate change is regarded by scientists and politicians alike as one of the greatest problems facing the world today. Providing the greatest contribution of greenhouse gases to the atmosphere is the burning of fossil fuels, including that carried out in the processes of manufacturing and running of motor vehicles - in particular the car. As explained in Chapter Two, it is recognised that a car running with a maximum passenger load is more efficient than a bus running with a minimum passenger load, but when considering the average greenhouse gas emissions produced and the average occupancy of each mode (i.e. greenhouse gas emissions per passenger) on a vehicle basis, the car is less 'environmentally friendly' than the bus and the train is the most environmentally friendly. Nonetheless, in relation

to all those of the transport modes considered by this thesis, walking and cycling are the most environmentally friendly.

Considering the dominance of the car in relation to society's transport behaviour in the UK (as outlined in Chapter Two) and the environmental impact of this particular mode (with respect to its impact on climate change) it would appear necessary to find ways to reduce society's dependence on the car - if tackling climate change is considered an important policy goal. The UK Government has set stringent targets with respect to tackling climate change and officially it is stated that transport policy is being developed in light of this[207]. Such policies use both 'hard' and 'soft' measures, the latter focusing on management and marketing activities in particular, often addressing psychological motivations for travel choice as well as economic ones. A clear understanding of society's attitudes and behaviours towards transport is key to such policy, in order to understand both society's current and, more importantly, future intended travel behaviour, a well as their attitudes towards voluntary and/or enforced behaviour change in light of the impact of transport on climate change.

Current evidence suggests that, despite a general understanding of and concern about climate change, the public are particularly unwilling to change their travel behaviour (in light of this issue). Further, as discussed in Chapter Four, it has been found that young people (defined as those between the ages of 11 and 18 years) are both relatively unconcerned about climate change and unwilling to change their travel behaviour intentions (away from use of the car) as a result. Chapter Three explored why this attitude–behaviour gap (in the context of society in general) exists, illustrating the wide range of different factors that influence travel behaviour. Overall it was found that research in this context has led to a number of conceptual theories, many of which are applicable in the context of this thesis. However, no single theoretical framework includes *all* of those factors deemed relevant. Nonetheless, by considering a relatively new context (the attitudes of *young people* towards transport and their willingness to tackle climate change) and utilising a number of different theoretical frameworks in this context, it is possible to utilise a greater number of potential explanatory concept/factors and/or postulated links between these concepts than can be provided by one single framework. As such, this thesis has 'borrowed' concepts and links from a

[207] See DfT's (2007g) policy paper "Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon World".

number of frameworks and used them to guide new exploratory research in the context noted above.

With this in mind, Chapter Four more specifically considered a number of potential explanations for the lack of concern shown by young people towards climate change and their unwillingness to tackle this issue via changes in their current or intended travel behaviour. These included values, information, attitude (with respect to behavioural beliefs - including both cognitive and affective/emotional responses to the attitude object), social norms, image, self-identity, role identity, control beliefs, habit (or automatic behaviour) and personal/moral norms. In turn, 'willingness to tackle climate change' was considered as a specific personal moral norm and was suggested to be (potentially) influenced by information and signals, concern about climate change, awareness of consequences and ascription of responsibility, and self efficacy.

At the same time it was noted that, when studying a set of attitudes and behaviours in a new context, such research should be open to new explanatory factors – one or some of which may be unique in that context alone. Further, in order to allow such openness and in reflection of the highly subjective nature of attitudes, it is important to explore this context through the language of those being studied. Thus the aims of the present study were put forward in Chapter Four and it can be said here that the thesis specifically aimed to explore (and in doing so gain a deeper understanding of) the attitudes of young people towards transport modes, their willingness to tackle climate change, and whether their willingness to tackle this issue acts, or has the potential to act, as an influence on their current or, more importantly, future intended travel behaviour. At the same time it aimed to develop a successful, engaging and enjoyable methodology that was focused upon eliciting information from young people in their own words.

In reference to the latter of these aims, Chapters Five and Six illustrated the need for, and issues when implementing, the qualitative in-depth focus-group study used. As such, 12 focus groups were carried out, split by age (11, 15 and 18 years) and gender. Six groups in Wave 1 (one group for each age and gender split) were provided with images during semi-structured discussion groups focused on eliciting information from the participants in relation to the aims of the study noted above. The individuals in six groups in Wave 2 were asked to collect around 12 images themselves (half in relation to 'the car' and half in relation to 'any other form of transport'), which were used in

discussion groups using a very similar format (with respect to the moderator guide devised) to those in Wave 1.

Chapter Seven introduced Chapters Eight, Nine and Ten. These chapters explored and discussed the results of the discussion groups in relation to the evidence base outlined in Chapters Two to Four. Therefore, as illustrated by the research framework (Figure 14, page 289), it is held by this thesis that various sources of information and signals (identified as the mass media (and within this, television adverts, television programmes, films, newspapers, the internet and books), family, school, peers, the transport industry and experience) and values (part based on this information) form the basis of the participants' attitudes and beliefs towards transport modes and their willingness to tackle climate change (via changes in their current/intended travel behaviour in particular). It is also held that there is an important interaction between these sources of information and signals.

Young people's attitudes and beliefs (towards transport modes) have both a cognitive and an affective component and, as shown by the expansion of this concept within the research framework, they include attitudes based on behavioural beliefs, image, self-identity, role-identity and social norms (which, reflective of the Theory of Interpersonal Behaviour discussed in Chapter Three, are grouped under 'social beliefs'), and control beliefs. In addition, 'willingness to tackle climate change' poses as the single personal moral norm relevant in the context of this thesis. This personal/moral norm is influenced by concern about climate change, understanding of climate change (which, as established in Chapter Seven, is based on information and signals part-received from school, family and the mass media, but not from experience – due to the intangibility and timing of climate change), awareness of consequences and ascription of responsibility (abbreviated to A of C and A of R in the research framework), and control beliefs – in particular self efficacy (which, as highlighted previously, is directly influenced by concern about climate change). It is also influenced by attitudes towards transport modes (both in relation to cognitive and emotional responses towards the same) in that personal/moral norms about what is right and wrong are usually in the context of behavioural beliefs about the outcome of performing in a certain way. These attitudes and beliefs then influence the participants' travel behaviour intention and in turn their travel behaviour. It is also held that the experience of the transport mode chosen provides a feedback loop between behaviour and information. Life-stage – including in this case the ability to drive - is assumed to impact all of these factors.

11.3. A comparison of conceptual frameworks

Although the research framework developed by this thesis is not intended to represent the summative findings of the study, but instead to act as a 'map' to the wide-ranging and complex findings elicited, it is still considered useful to explore the similarities and contrasts that may be made between the present research framework and those discussed in Chapters Three and Four. It is thus recognised by this thesis that by developing the present study on the basis of such theoretical frameworks, it is evitable that there will be some strong comparisons. In this sense, had the study been approached without any prior understanding of those concepts/factors likely to be relevant in the context of this thesis, the findings may have varied from what was found and reported here, or perhaps concentrated on certain concepts in particular. This being said, the present study revealed a number of new findings in relation to those theoretical frameworks reviewed.

Overall, the research framework includes concepts and links between these concepts, drawn from the different frameworks explored in Chapters Three and Four. However, unlike any of these frameworks, it includes 'information' as a separate key concept. Although the deficit model and rational choice model include a concept of 'knowledge' this is argued to be distinct from information (as explained in Chapter Three). Like the Value Belief Norm theory (VBN) the research framework includes a concept of 'value', but does not refer to the New Ecological Paradigm due to the fact that this was not used. Further, it does not (explicitly) make the distinction between different types of values.

Like the Theory of Planned Behaviour (TPB) and the Theory of Interpersonal Behaviour (TIB), the research framework also includes a concept of 'attitude' and reflective of the TIB (but in contrast to the TPB) it includes a concept of 'social beliefs'[208] – although within this, it includes 'social norms' which is a concept used by the TPB. However, in comparison to the TIB, which refers to 'norms', 'roles' and 'self concept', the research framework more explicitly borrows from the Self-Identity Theory by referring to 'self identity' and 'image', as well as 'role-identity'.

[208] Although the TIB refers to 'social factors'.

With reference to control beliefs, the research framework borrows from the TPB, but in addition, refers to 'self-efficacy' specifically and the link between this and 'willingness to tackle climate change' (as a specific personal/moral norm). Willingness to tackle climate change is not included in the frameworks reviewed as it was not a specific focus for those developing them. However, it is a similar concept (being a personal/moral norm) to that of 'pro-environmental norm' as included in the VBN – this reflecting the focus of the VBN on environmental behaviour (of which tackling climate change is one). In addition to this, the research framework also borrows from the VBN with respect to the concept of 'awareness of consequences and ascription of responsibility'. With this in mind, the VBN is considered the most relevant and helpful framework with regards the present study.

Reflecting the TPB and TIB, the research framework also refers to 'behaviour intention' as a culmination of those factors referred to above, and behaviour as dependent on this intention. However, unlike the TPB, TIB and VBN, the research framework explicitly includes a feedback loop between behaviour and information. As such, it reflects both Bagozzi's comprehensive model of consumer action and TAPESTRY's 'Seven Stages of Change' model.

Overall, each of the theoretical frameworks reviewed provided useful insights, concepts and links between these with respect to guiding and aiding the analysis of findings in this study. However, this thesis only considered 'willingness to tackle climate change' as a personal moral norm (other norms may have been applicable had they been examined), a concept not included in other frameworks and thus illustrating the degree to which the research framework is context specific and acts as a map to the research, rather than a universal model. Nonetheless, this is not to say that the framework does not present a novel contribution to knowledge, or that it cannot be tested, or substantiated in future work. The present thesis builds on the discussions presented by Anable et al. (2006) and Jackson (2005) in particular, by applying a number of different theoretical frameworks in a new context, and drawing a new framework as a culmination of the findings. As such, the framework can be regarded as a point of reference in relation to further research in this area – research that can now be based on a more thorough understanding of the factors influencing the attitude and behaviours of young people towards transport modes and their willingness (or lack of willingness) to tackle climate change via changes in their travel behaviour intentions.

11.4. Key findings and implications

Overall it is felt that the present study has provided a number of depth insights into the attitudes of young people towards transport modes and their willingness to tackle climate change. At the same time, although the participants were recruited with the aim of eliciting highly detailed accounts of their thoughts and feelings in this context, the variation in sources of recruitment and the degree to which the results are consistent across the groups by age and gender (as seen in Chapters Seven to Ten), suggests that the findings can be considered generalisable on this basis. As such, a number of findings can be identified as building upon those identified in the current evidence base. These findings are presented below, with the aims of the thesis in mind - identifying their implications for transport policy and initiatives aimed at influencing young people away from an intention to drive and towards an intention to use more environmentally friendly modes.

However, a number of caveats to these findings must be identified. As noted in Chapter Six, it is recognised that the sample recruited limited the number of issues it was possible to analyse. For example, it would have been useful (had it been possible) to sample on the basis of car owning vs. non-car owning households, people living in areas with good vs. poor access to public transport or schools with/without travel plans. As noted in Section 11.6. below, this is an issue that could be picked up in future research. Similarly, when considering the key findings of the present study and implications of these, it should be remembered that the sample was recruited on a sub-regional level in that it was confined to Bristol. Therefore, although relatively universal issues such as peer pressure and the importance of image and identity are unlikely to have been influenced by this, issues such as the availability of public transport and cycle facilities, as well as local transport issues and campaigns are. In turn, due to the differences between the transport facilities available to individuals in different locations (such as the underground systems and/or light railway available to people living in London, Manchester and Sheffield compared to the poor public transport available to people living in Bristol) attitudes towards such issues are also likely to differ from location to location.

Further to this, as noted in Chapters One and Three, it is recognised that willingness to tackle climate change is only one factor with the potential to influence the travel

behaviour intentions of young people and that it may not be an influencing factor at all. However, it was considered important to investigate its current/potential role further in light of the impact of transport on climate change and the degree to which policy and information provision is based on the link between the two. In doing so, it was possible to investigate whether other factors (such as the importance of image and self-identity and the impact of transport on health as highlighted below) pose a stronger influence on young people and/or whether such factors may be utilised in favour of climate change in efforts to influence travel behaviour change.

It is also recognised that travel behaviour intention does not always lead to actual behaviour change. Thus, it is not assumed that the findings of the new study reported by this thesis include all of those factors requiring attention with respect to ensuring actual travel behaviour change (in this case, specifically in light of the impact of transport on climate change). However, considering the thesis concentrates on use of the car as a driver and the attitudes of young people at and (the majority) below the age of licence acquisition, it can only consider their intention – although this is not to say that behaviour intention is not an not an important factor in its own right. As explained in Chapter Three, behaviour intention and the opportunity to choose a behaviour (determined by the actual control factors influencing an individual) work in tandem - opportunities are part formed by intentions and intentions cannot be fulfilled without opportunities.

11.4.1. Attitudes towards transport

- **Stated transport behaviour intention -** "If I had the option, I'd rather drive."[209]

The participants stated current and future intended travel behaviours. The findings for current behaviours reiterated those reported in the evidence base in that, across all age groups, the majority of travel to school is by walking or by car. However, more importantly with respect to the focus of the present study (and also reflecting the findings reported by a number of other researchers (DHC, 2003; Storey and Brannen,

[209] Comment by a group 18M(1) participant.

2000; Turner and Pilling, 1999)), it was found that all of the participants intended to continue driving or to learn to drive in the future.

- **Sources of information and signals about transport -** "They make good programmes about cars and stuff."[210]

The key findings of this thesis with regards the conflicting messages about transport and climate change received by the participants will be discussed later, but here it can be said that a number of sources of information and signals were identified as particularly important with respect to the car and the bus. Despite some prompting (by the moderator) to think about sources from which they have received information and signals about cycling, walking and the train, with the exception of the few comments regarding the information they receive about cycling at school, these modes were discussed by the participants mainly in the context of the participants' experiences of using them. Although this is an important finding in itself (in that it may well be that young people receive most information in relation to these modes from experience and no other source in particular), it is recognised that this area would benefit from further research.

In addition, a number of important and more specific findings were made in relation to each source of information, illustrating that the way in which these are received by young people is not as simple as may be assumed. This has specific implications for designing and disseminating promotional material in relation to more environmentally friendly modes and/or demoting the car in light of the impact of transport on climate change. These findings are summarised as follows:

- Participants of all ages expressed cynicism towards television adverts as a source of information about the car, as well as an attraction to the advert rather than the car itself. In relation to the latter issue, it is postulated that age (or 'life-stage') may be a determining factor in this context, as most of the participants are not in a financial position to buy a car – something a small number of the participants recognised themselves. However, despite their cynicism about such information, it is likely to be recalled when they do come to buy a car. It is therefore suggested here that

[210] Comment made by a group 18F(1) participant.

while they are unable to 'act on' this information there may be room to promote use of more environmentally friendly modes as an opportunity to help tackle climate change. Although they may also question this information, the issue of climate change, and taking action in light of it, is not bound to their age or life-stage and in this sense they can use this information now, in contrast to that in relation to the purchasing of cars.

- A number of participants indicated that television programmes not only provide information and signals in relation to what is socially acceptable with respect to the image provided by a given type of car (or "the car" in general)[211], but also the image a person can project by admitting to watching a given programme (such as Top Gear). These findings also reiterate the importance of image and identity to the participants.

- For a number of participants it became clear that their father is an important role model with respect to the car. Further, the subject of the car acts as a way for them to bond with their parent - thus illustrating the importance of the emotional culture of the car in relation to their positive attitude towards it. It also became clear that one participant enjoyed socialising with her mother when travelling by this mode (although others suggested the car reduces the degree to which socialising is possible) and, confirming those conclusions made by Barker (2003), a small number of the participants referred to their siblings as a source of information about the car.

- Several participants referred to the negative information about the bus they receive from family, via their observation of family members' negative experiences using this mode and/or negative 'word-of-mouth' information about it – despite a number of the participants recognising this information may be biased due to society's tendency not to refer to the positive experiences they have had using this mode. At the same time, parental fears in relation to safety negatively influence the attitudes of a small number of the female participants towards walking, linking to those findings made by Balzani & Borgogni (2003), Timpero et al (2004) and Fotel and Thomsen (2004). In this sense it would appear that family and peers provide the participants with more information and signals promoting use of the car than use of more environmentally friendly modes.

[211] As do television adverts and films (according to the participants).

- With respect to the influence of peers, in one group it was found the participants encouraged each other to talk about their lack of concern in relation to cycle safety as a justification for not wearing a cycle helmet. Further, a number of participants referred to peers as a source of information (both positive and negative) about the bus, but perhaps more importantly, the participants suggested their peer group provide signals about the importance of image in relation to the cars they drive. In particular, (as noted in Chapter Nine), the members of group 15F(1) explained that they feel more pressure to own an 'acceptable' car with respect to their peer group than they do to learn to drive.

- A small number of participants were aware of information promoting the bus from the bus industry and suggested this was only available from bus stations. One group even argued that there is nothing positive to advertise in relation to the bus in the first place. In addition, although participants in groups 11F(1) and 11M(2) considered bus timetables an important source of information, a number of other participants considered timetables confusing and frustrating. These, and the previous findings relating to the participants beliefs and attitudes towards the bus, may be compared to those elicited from the workshop involving the Ten Percent Club. Here it was reported that a number of bus companies may not target information directly at young people and that a key reason for this lies in a lack of understanding of this age group by those working in this industry. The present study has found, perhaps as a reflection of this, that the participants feel they lack information in relation to this mode.

- **The importance of experience –** "…because we've used them so many times and we know what they're like now."[212]

Relating to information, but a key factor in its own right, is the influence of past experience. With respect to the current study, not only were a number of the participants aware of the importance of experience themselves, but it became clear that experience was a key determinant of many of the participants' attitude and beliefs towards transport and thus a feedback loop was drawn between behaviour and 'information and signals' in the research framework (as illustrated in Figure 14). With

[212] Comment made by a group 18F(1) participant.

respect to increasing current and future use of more environmentally friendly modes, this is particularly important with respect to the bus in that it has been illustrated by this thesis that the experiences of the young people involved in this study (as well as those studied elsewhere) have been exceptionally negative. Similarly, their negative experiences of cycling with respect to safety, as well as cycle theft, can be expected to negatively influence their behaviour towards this mode in the future. In contrast however, their experiences of using the car have been generally positive.

Further, there is an important contrast between the participants' experience of transport modes and their lack of experience in relation to climate change. With this in mind it can be assumed that the participants' attitudes towards the car, bus, cycling and walking are based strongly on an intra-attitudinal structure due to their experience of these modes. Fewer participants referred to their experiences of the train and therefore their attitudes towards this mode are more likely to have an inter-attitudinal structure, as are their attitudes towards climate change. In this sense, it should be easier to change their attitudes towards this mode and this issue. However, it has been illustrated by this thesis that, in relation to the train, their attitudes are already positive and therefore it is more a case of retaining their positive attitudes towards this mode if and when they do gain experience of using it.

In relation to tackling climate change it has been found that it is the intangibility of climate change, due to the participants' lack of experience of this issue, that leaves them feeling unconcerned about it. However, considering climate change is such a potentially catastrophic problem, waiting for people to change their behaviour due to concrete experience of it is not considered the best course of action. Thus, with respect to policy and educational campaigns, it would appear necessary to find ways to enforce behaviour change (as welcomed by a number of the participants), and/or illustrate the potential impacts of climate change in a way that is more tangible than simply written or verbal explanations (perhaps using adverts or short films), in order to compensate for their lack of experience in this respect.

- **The importance of values –** "Limousines, they're like a really special thing for like if you're posh or you have lots of money. That's why I want to have one of them."[213]

As highlighted in Chapter Nine, it is suggested by this thesis that the majority of participants express attitudes that can be related to the values identified by Rokeach (1973, 1979). As such, their need to travel quickly, safely, comfortably and efficiently (which includes using a reliable and flexible form of transport that allows them to arrive on time to their destination) can be linked to 'A Comfortable Life', 'Freedom', 'An Exciting Life' and 'Pleasure' as identified by Rokeach. Also, the importance the participants appear to place on image and identity, with respect to their current/intended travel behaviour, can be linked to 'Self-Respect' and 'Social Recognition'.

With this in mind, it is suggested by this thesis that the attitudes and beliefs expressed by the participants in relation to different transport modes, are on the basis of these values. For example, in relation to the car it has been shown that the participants' positive attitudes and beliefs towards this mode are in relation to the majority's belief that a) it is the quickest, most comfortable and efficient way to travel and b) it is capable of providing the driver/owner with a positive self-image, self-identity and role-identity. In contrast, the majority of participants illustrated that they consider the bus to be uncomfortable, inefficient and slow and that there it no part of it as a vehicle or its use that is capable of improving their self-image or influencing their self- and role-identity.

In addition and as mentioned previously, due to the fact that it is possible to purchase a car (as a vehicle) and not a bus or train, it is also put forward that materialistic values act as an important influence on the participants attitudes and behaviour towards the car in particular. Such values are similar to those of 'Self-Respect' and 'Social Recognition' (as identified by Rokeach) but point specifically to the idea that *material goods* can provide a person with an image of financial wealth and social status - and therefore a sense of identity, success and happiness.

[213] Comment by a group 11F(2) participant.

Therefore, a key conclusion of this thesis is the importance and centrality of values including 'A Comfortable Life', 'Freedom', 'An Exciting Life', 'Pleasure', 'Self-Respect' and 'Social Recognition' as identified by Rokeach, and 'Materialism' as discussed by Dittmar (2004), in the participants' value systems towards transport, and the role they play in influencing the participants' positive attitudes, behaviour and behaviour intention towards use of the car in favour of other more environmentally friendly modes.

- **Image, self-identity, role-identity, social norms –** "…you like to think "ooo I'm as good as them", but they've got a better car than me."[214]

As noted above, it was found that image and identity are key influences on the participants' attitudes and beliefs towards transport modes. Overall it was found that the majority believe that it is the car, in comparison to all other modes, that provides them with the most positive image and identity (with respect to the social norm, their self-identity and their role-identity). In contrast, the majority of participants expressed their belief that the bus has a negative image and is used only by people who cannot drive - thus suggesting that they will move away from this mode once they can drive themselves. Further, a number of participants referred to the negative image afforded by wearing a cycle helmet, which has connotations not only for promoting cycling in general but also cycle safety.

A key finding (of this thesis) in this respect is the degree to which these 'social factors' are considered equal to, if not more important than, the behavioural and control factors influencing the participants' attitudes towards transport modes. For example, it would appear from these findings that even if a fast, reliable and cheap bus service is available to the participants once they can drive, using it would present the wrong image to society and therefore they would not use it. In contrast, even though the high costs of the car are recognised by the participants, the importance of the social status they would gain by driving and owning a desirable car is considered worth the expense.

[214] Comment by a group 15F(1) participant.

- **The importance of emotion –** "if [*the bus is*] all horrible on the inside it just doesn't feel nice."[215]

A further key finding of this thesis is the importance of the participants' emotional response to dtheir current/intended travel behaviour. In particular, emotion appears crucial to the centrality of image, identity and materialism in the participants' value systems (as discussed above) in that an individual's responses towards these factors are mainly in relation to their feelings, rather than their rational response to facts. Such responses also provide further explanation as to why the participants consider speed, comfort, safety and efficiency of travel important factors, and how these vary across different modes. For example, a number of participants referred to the feeling of freedom they associate with, and experience, when using the car in comparison to the lack of freedom and confinement they feel when using the bus. Others referred to their fear and anger in relation to issues of safety (when walking and/or cycling) and bike theft and vandalism. Further, the majority of participants referred to their dislike of not being able to choose who they travel with on the bus, as well as the negative feelings they associate with the lack of cleanliness they experience when using this mode.

Such emotional responses are considered particularly important in relation to the participants' use of these modes in the future. With such feelings developed at such a young age and sustained through childhood, it is unlikely that they will continue to use these modes into adulthood when they also have the option of driving? In this sense, it would appear that there is a need to utilise both 'soft' policy measures in relation to their negative emotional responses to more environmentally friendly modes and 'hard' measures in relation to their negative responses towards the unreliability, inflexibility, lack of cleanliness, lack of safety and risk of theft and vandalism they associate with the same[216].

[215] Comment by a group 15M(1) participant
[216] In addition, comments in relation to travel modes were often expressed in a way that reveals a mixture of both cognitive and emotional responses and therefore it would be unnecessary to separate such responses in analysis or in the design of promotional material.

11.4.2. Willingness to tackle climate change

- **A lack of sound understanding –** "hang on, what's climate change again?"[217]

Through analysing the factors that influence the participants' 'willingness to tackle climate change' (as a specific personal moral norm) a number of key findings were made. Firstly it was found both in the current literature (Climatechallenge, 2006b) and in the present study, that young people lack a sound understanding of climate change. Over and above previous findings, the present study also found that confidence is a key issue in this context. In this sense, not only do the participants lack a sound understanding of climate change, but they lack confidence in the understanding they do have. It is perhaps therefore unsurprising that the participants referred (unprompted) to their need for further information and to the *type* of information they require (thus building on the findings of Anable et al. (2006)). In addition to this, a number of the participants recognised that a sound understanding of climate change (and why policies are made in light of this issue) is important for people to feel motivated to tackle climate change in the first place. However, they struggled to suggest how such an understanding may be achieved - perhaps as a reflection of the multitude of sources from which they receive information and signals about climate change and the many different messages they receive as a result.

- **Sources of information and signals about climate change** – "…you'd be surprised how much information there is on Futurama about like climate change stuff…and The Simpsons."[218]

Overall it can be said that the participants receive information and signals about climate change from a number of sources and these may present them with conflicting messages. For example, participants referred to the important messages they have received from films – both in relation to the glamorisation of the car and those serving to warn of the dangers of ignoring climate change. However, the participants who discussed both types of film did not question the conflict in messages they have been

[217] Comment by a group 15F(2) participant.
[218] Comment by a group 15M(2) participant.

given, suggesting that those in relation to what they can *do* to tackle climate change were not made clear.

It was also found that none of the participants had seen adverts about the bus (as a more environmentally friendly mode of transport) on the television, or considered the bus worth advertising in this way in the first place. In contrast, those participants who had seen a television advert in relation to climate change believed it to be particularly effective – thus suggesting that they are open to receiving information in relation to the issue.

In relation to school as a source of information, it was put forward in Chapter Four that young people are likely to be taught about the link between transport and climate change at various points during their school years and that geography and science are the key subjects in this respect (DHC, 2003). In addition to Climatechallenge's (2006b) findings, the results of the present study would appear to support this assumption in that the participants who agreed that school was an important source of information in this context, referred to these subjects in particular. However, a small number of participants stated that school is not an effective source of information about climate change, particularly in reference to the link between this issue and transport.

It was also found that the participants tend to receive mixed messages about transport and climate change from not only their parents and peers, but also from siblings, cousins and grandparents. Consequently, it would appear that family life may provide a haven of mixed messages. For example, children may learn new information about climate change at school and/or from their parents, but at the same time their parents may provide them with information and signals about transport - such as paying for them to learn to drive and use their car. Their siblings may also provide information and signals, but these may different to those provided by their parents. In addition to this, they may receive new information when other family members (such as aunts, uncles, cousins and grandparents) sporadically appear in their lives.

Further to this, it has been illustrated that young people not only receive information from their parents, but act as a source of information for their parents in return (in particular via the information they learn at school and take home with them). As such, it is important to recognise that, in many cases, the way in which family provides information in this (or any) context, is not as simple as the parent-child relationship (as

found by Barker, 2003). As noted in Chapter Ten, it is therefore important to view education of young people in this light – taking a holistic view of information provision. Information needs to be consistent across generations and sources in order to lessen or prevent the problem of young people receiving mixed messages in this context.

- **Self efficacy, awareness of consequences and ascription of responsibility** - "I'd like to change it. But I know I wouldn't be able to, just me."[219]

One of the most important factors with respect to the participants' lack of concern about climate change and unwillingness to change their behaviour intentions, is their lack of self-efficacy in this respect. This appears to be in addition, and linked, to the participants' lack of experience of climate change. In explaining why they feel this way, the participants referred to the following beliefs:

- Tackling climate change is a task impossible to carry out by individuals alone;
- If they, or other individuals, attempted to tackle climate change themselves the rest of society may not do the same, thus rendering their own efforts pointless (consequently illustrating that the participants reflect the problem of the 'Social Dilemma' (Garling et al. 2002) referred to in Chapter Two);
- People older than them do not listen to them and subsequently their ideas and efforts to tackle climate change would be ignored;
- A lack of transport choices means tackling climate change via a reduction in their use of the car is particularly difficult;
- People are unaware of the power they do have; and
- The chance to tackle climate change has been lost.

[219] Comment by a group 11F(2) participant.

In addition to this, it became clear that the participants' awareness of consequences and ascription of responsibility is linked to their behavioural beliefs (in relation to what they believed would be the outcome of behaving in a certain way) and their self-efficacy. The majority of participants indicated that they do not feel a sense of responsibility for climate change. In explaining why, they referred to the inconvenience of changing their behaviour, the fact that they would be going against the social norm by using modes other than the car, and that they are unprepared to do so if no one else does the same. Several participants also suggested that their concern about issues in the present, such as exams and homework, take precedence over that in relation to the likely impacts of climate change in the future. Similarly, a small number of the 18 yr-old female participants suggested that young people have difficulty visualising the future and even if they do, they spend more time worrying about how they will obtain a job than they do about climate change.

Overall, it is felt that improvements in the participants' understanding of climate change could in turn improve their awareness of the consequences of their behaviour. This, together with finding ways to improve their self-efficacy with regards tackling climate change and their ascription of responsibility in this regard, may in turn increase their willingness to tackle climate change via changes in their travel behaviour intentions. If this was possible, then willingness to tackle climate change (via changes in travel behaviour intentions) could pose as a factor worth utilising in relation to 'softer' measures (such as promotional and marketing material and information provision) aimed at influencing young people away from an intention to drive and towards an intention to use more environmentally friendly modes. However, such measures would have to be used in parallel to 'harder' measures (such as the provision of higher frequency bus-services, more comfortable, clean and attractive buses, secure cycle storage facilities and increased implementation of cycle lanes) aimed at improving the objective characteristics of alternative modes.

- **A lack of concern about climate change, but a willingness to change transport behaviour in light of it –** "**So you do have a sense of responsibility?** Only if there's a ban, I wouldn't just go out of my way to ride and walk."[220]

A key finding of this thesis refers to the degree to which the majority of participants willingly admitted that their travel intentions are not influenced by concern for the environment. In this sense it appears that they are 'off-setting' the responsibility of environmental protection (with respect to feeling the impacts of climate change in the future) due to the 'superiority' of utilising what they consider to be the most efficient, comfortable and safe mode of transport, and that which accords to their value system and self-identity.

Nonetheless when discussing transport modes in isolation of climate change, a number of comments revealed beliefs and attitudes in favour of more environmentally friendly modes and a recognition of various negative attributes to the car and driving. For example, as discussed in Chapter Nine, a number of participants referred to:

- The speed, and therefore shorter journey times, they believe they can achieve by cycling (in comparison to walking, as well as congested traffic),

- The high speed and reliable travel they believe the train offers them in comparison to the bus (although this is based on very limited experience);

- Their belief that a reliance on the car is an important factor in relation to obesity in that it discourages exercise;

- Their positive attitude towards other more environmentally friendly modes of transport based on their beliefs that use of them means 'you don't have to drive';

- Their positive beliefs in relation to the sociality of travelling by *coach* where they tend to travel with friends and/or family and their positive attitudes about the coach being less "scabby" and "more luxurious" than the bus;

[220] Comment made by a group 15M(1) participant, moderator in bold.

- Their beliefs that the train is “fun”, “exciting”, “smoother” and calmer” than other forms of transport and that it is enjoyable, “looks better and feels cleaner” than the bus, as well as their positive beliefs about other train passengers in comparison to those that use the bus, and therefore the more ‘classy’ image they are projecting to others by using this mode. In addition they consider that by using this mode they are following the social norm.

Further, those participants unable to drive (particularly the youngest participants) referred to their lack of control over the car journey experience as a passenger and their negative attitudes towards this mode as a result. A few participants also agreed that journeys in the car lack sociality and prevent personal interaction. Further still, several participants referred to the potential motivation to use the bus and/or train that may be provided by financial incentives such as bulk ticket purchases or travel cards in relation to each.

In addition, another key finding of this thesis (with particular relevance to policy aimed at influencing young peoples’ attitudes, beliefs and intended behaviours towards transport) was that a number of participants (of all ages, each gender and including those able to drive) showed interest, enthusiasm and willingness to tackle climate change via a reduction in less necessary driving and increased use of more environmentally friendly modes both voluntarily and due to enforced behaviour change in the future, as long as there are viable alternatives. In this sense it appears that they recognise that by forcing everyone to act in the same way, it removes the problem of the social dilemma – an issue a number of the participants referred to as a reason not to make changes voluntarily. Similar findings have been reported in relation to the attitudes of adults towards actively engaging in environmental behaviours. Several participants also recognised that such changes are important with respect to not only the environment but their health as well.

11.4.3. Life-stage and gender

In Chapter Four it was suggested that identifying life-stages at which young people’s attitudes and behaviour towards transport may change, and thus habits may be broken, is important with respect to providing new information (in relation to transport and

climate change) to young people at a time at which they are more likely to listen. Also, it was assumed that the attitudes and beliefs elicited by the study may vary by age, life-stage and/or gender, therefore providing information about where and how this information should be targeted at specific age groups and each gender. However, in the present study, the *majority* of comments made and issues raised by the participants did not differ according to age beyond differences in phrasing and wording – a finding that suggests that new information could focus on the same issues and be delivered in the same way across young people in the age group studied.

As such, the majority of topics discussed did not illustrate a development in thinking or attitude that may relate to an increase in age – an unexpected finding on the part of the present researcher. In Chapter Four it was put forward that there remains scope to influence people before they develop driving habits, but from these results it would appear that this is more questionable than expected in that 'socialisation' of these young people has already occurred - their attitudes towards transport and climate change are already well developed (i.e. young people are not a 'blank template'). As such, further research is considered necessary in order to investigate beyond the boundaries of this age group and assess at what age young people's attitudes form.

There were some exceptions to this rule however. For example, a number of participants claimed not to respond to the car being advertised in television adverts because they are not in a position to buy a car themselves. Secondly, it became clear that a key life-stage is gaining the ability to drive. It was the drivers in the study who referred to their ability to control their comfort level in the car and the passengers who referred to their inability to do so. Further, it was also noted by participants in Group 15M(1) that the behaviour of young people changes as they enter the sixth form at school in that,

> - You just get lifts in the sixth form, coz your friends can drive or you can. *(Group 15M(1)participant)*

This is an important belief in that they appear to see choosing the car (once this is possible) as the natural course of behaviour for young people. As illustrated by the findings presented in Chapter Seven, there was an increase in the already dominant use of the car when the participants gained the ability to drive, particularly in relation to

their journey to school, in that all of the drivers choose to use the car in this context. In this sense, it could be suggested that they are less likely to listen to information relating to the promotion of more environmentally friendly modes at this stage in their life, in that this is the point at which car habits are formed.

Further to this, the participants own (and therefore 'internalised') beliefs about the importance of gender and life-stage were also found to act as influence on their attitudes towards transport modes. For example, members of group 11F(1) referred to their beliefs that it is boys who are interested in cars rather than girls and similarly, participants in group 18F(1) suggested that the impact of car marketing is of more significance to men, which one member of this group attributed to the need for men to use cars "to show off". In the same way, participants from one of the 15 yr-old female groups agreed that "BMXing" is not something that girls are as interested in as boys (including themselves). Importantly, these female participants often referred to these gender differences in a tone that suggested that they do not want to be associated with such male images – again reiterating the importance of image to this age group.

11.4.4. Methodological issues

Chapters Five and Six noted a range of issues involved in choosing and implementing the most appropriate methodology for carrying out a study of the attitudes of young people towards transport, with the importance of developing qualitative, participatory methodologies that allow young people to express their thoughts in their own words and in a non-threatening environment (as highlighted in Chapters Two, Three and Four) in mind. As such, the use of discussion groups and photography led to the engagement of young people and allowed the participants to develop their thinking, learn from others and reassess their opinion throughout the discussions. It also allowed the research to recognise and follow up (via further probing) issues of participant anxiety, concern about causing offence, peer pressure, cognitive dissonance and impression management, which would not be possible via use of a self-completion questionnaire. However, as noted in Chapter Six, it is recognised that by using smaller focus groups, the results may have been influenced by the participants feeling overly tense, passive, tactful and constrained (Slater, 1958). The only way this could be assessed accurately however, would be to carry out both large

and small focus groups as part of a more extensive piloting phase of the research than was carried out by this thesis.

Similarly, it can be suggested that use of cameras may have distracted the participants or conditioned their answers to focus only on those themes focused upon by the photographic task (i.e. "the car" and "any other form of transport"). However, in comparison to the discussion groups carried out in Wave 1, where the images were provided by the moderator, it was found that this task was successful in engaging the participants in the research process, and stimulating discussion in relation to the above themes, as well as wider issues in relation to transport and climate change. On a practical level, as noted in Chapter Six, the participants experienced some frustrations when using the cameras, but these did not deter them from completing the task. As such, the results of the present study support those of Clark (2004), Barker (2003), Kirby (1999) and Sharples et al. (2003), in that young people are capable of, and enjoy, using photography as part of a research *process*.

Nonetheless, as noted in Chapter Eight and Ten, there were points during the discussion groups where it became clear that additional research methods (for example flash cards) would have been useful in stimulating discussion of those topics for which the participants did/could not collect related images. For example, in Chapter Eight, it was recognised that additional images in reference to, or examples of information from, sources of information other than the media (such as extended family members, friends or other role models) may have stimulated wider or additional discussion of these. Similarly, it was recognised in Chapter Ten that where understanding of climate change is poor, flash cards with key 'facts' about climate change (based on best scientific understanding) – particularly in relation to the link between transport and climate change - could have been used (or used in the future, as discussed in Section 11.6) to encourage further discussion of how the participants feel about such issues. In doing so, it is proposed that the limitation on the discussions imposed by the participants' lack of understanding and/or lack of confidence could be overcome. Further, it is recognised here that the use of photography – where the participants are asked to gather images in relation to the positives and negatives of travelling by different modes – may have allowed a more thorough comparison of the similarities and differences of travelling by different modes, as reported in Chapter Nine. Overall, these issues again highlight the need for a more extensive piloting phase in future research of this kind.

In addition to this, as noted in Chapter Six, the process of primary data collection concentrated on encouraging the participants to talk about their intention to move towards use of the car in the future, how their experiences of other modes of transport have shaped this intention, and how they imagine they would feel about being limited in their use of the car once they can drive. It did not ask whether they feel they would be *able* to change their behaviour in the ways they intended, or collect other evidence to assess whether this would be the case. It is therefore recognised that it is impossible to know whether the participants will have the actual capacity to travel in the ways they intend to in the future. By using research methodologies in addition to those used in the primary data collection for this thesis, particularly those allowing the exploration of individuals' current socio-demographic circumstances (as discussed immediately below), as well as their future behaviour (as discussed in Section 11.6), it would be possible to assess the scope for actual behaviour change in future research.

With such research in mind, and taking into consideration the discussion of methodology presented in Chapters Five and Six, it is suggested that individual interviews would be a suitable method of investigating individuals' circumstances (including perceived and actual control factors influencing their travel behaviour) and aspirations in relation to transport and climate change - more easily than was/is possible via discussion groups. However, it was also explained that individual interviews are difficult to implement with young people on ethical grounds. It is therefore suggested that paired interviews may be a suitable method (as used by Mayall, 2000, Mauthner, 1997 and Mitchell, 1997) – thus removing the issue of one to one contact with the participants and increasing the opportunity to obtain more information from each individual. Although such a method could be influenced by (but also enable exploration of) peer pressure (as noted by Highet, 2003), dealing with this issue with respect to individuals dominating the discussion or bullying other participants (using the techniques outlined in Chapter Six) would be easier for the moderator than during discussion groups due to there being fewer participants.

With future research in mind (as discussed below), in addition to the issues highlighted in Chapters Five and Six, it also is recognised that the study may have been enhanced by carrying out the research in a range of environments, thus accounting for the different roles young people play – which are not limited to being a member of their peer group, a student at school, a scout or a member of a hockey club. The participants are also part of their family and in this sense it may have been useful to

talk to them in this context in order to assist understanding the influence of their family in more detail (as considered by Barker, 2003). For example, it was noted in Chapter Eight and above, that an unexpected finding was the importance of siblings as a source of information for a small number of the participants. Considering the lack of recognition of siblings in this context in the literature, it would have been useful to ask about this issue in each of the focus groups.

11.5. Key contributions to knowledge

Keeping the limitations of the study (including issues of sampling and the sub-regional applicability of a number of findings) in mind, at the highest level it can be said that the findings of this study illustrate the complexity of, and interrelationships between, the factors discussed and found to be applicable in the context of the attitudes of young people towards transport and its impact on climate change. This is illustrated in particular by the research framework. As such, it is concluded that policy and initiatives aimed at influencing young people away from an intention to drive towards an intention to use more environmentally friendly modes, should take a holistic approach in their development. For example, by targeting information provision alone, the degree to which this information is censored by the individuals' values is ignored. Similarly, by concentrating on social beliefs, the importance of behavioural and control beliefs is ignored. In this sense, although the research framework developed by this thesis is not considered a research output in its own right (instead acting as a guide/map to the research findings), it does add to the conclusions of Anable et al. (2006) and Jackson (2005) in that it has taken forward the literature into a new study area and established those factors/concepts included in a range of other theoretical frameworks that are applicable in the context of this thesis. In this sense it has added to theory in this area and is considered particularly useful when guiding new research as a result.

At the same time, there are several issues in relation to the factors included in the research framework that require specific attention with regards policy and other initiatives. Thus, with respect to the 'contributions to knowledge' made by this thesis, the following insights are considered key:

- The sources by which new information is provided to young people (with respect to the promotion of environmentally friendly modes and/or demoting of the car) must recognise the extent to which young people receive mixed messages from a range of sources and that young people act as a source of information themselves. Therefore messages need to be delivered through the utilisation of several sources (rather than a single leaflet drop, billboard campaign or television advert) and ensure consistency across generations and sources in order to lessen or prevent the problem of young people receiving mixed messages in this context.

- Experience is as, if not more, important than external information. In this sense, softer measures in relation to promoting environmentally friendly modes (and/or demoting the car) must be used in conjunction with harder measures targeting unreliability, inflexibility, lack of cleanliness, lack of safety and risk of theft and vandalism in relation to the same. By ensuring young people have a positive experience when walking and cycling and when using the bus and train, a new cycle of positive 'word of mouth' information exchange may be achieved within young people and between them and other age groups. Further, experience of climate change is limited, making the potential impacts of climate change less tangible to young people. Therefore, in light of encouraging or enforcing travel behaviour change in light of this issue, information provision must compensate for this (by utilising methods other than the written word).

- However it was also found that the impact of transport on health (both in relation to air pollution and the link between obesity and sedentary lifestyles) - as an example of a more tangible impact of transport felt by the participants 'in the here and now' - has little influence on the participants' attitudes and behaviour towards cycling and walking. In turn, it is recognised that this finding may be influenced by the importance of safety when cycling or walking, as noted by a high number of the participants (as well as their belief that, despite having a good understanding of how to deal with health problems, health is an issue they do not need to worry about until later in life). Also representing a more tangible impact of transport, safety is an issue that directly influences the participants' behaviour (for example, through fears for their personal safety, a number of the participants cycle on the path in favour of the road, or not at all), but one that pushes them away from more environmentally friendly modes, towards use of the car. Thus, it appears that health and safety, as

more tangible impacts of transport, are not necessarily issues that could be promoted instead of climate change in efforts to influence young people away from an intention to drive towards use of more environmentally friendly modes.

- The majority of participants intend to learn to drive and have a positive attitude towards this. A number also referred to the importance of learning to drive in becoming an adult and in establishing their role identity as a member of their family or peer group. At the same time, all of the drivers in the study use the car for the journey to school and several participants saw this as something 'everyone does when they're seventeen'. As such, it would appear that targeting information at young people at or just above the point of licence acquisition would be misplaced, as this the point where the urge to drive is at its strongest and car habits are formed. However, a high number of the youngest participants (aged 11 years) expressed a negative attitude towards travelling by car as a passenger. Thus, promoting use of more environmentally friendly modes at this age group may be more fruitful.

- 'A Comfortable Life', 'Freedom', 'An Exciting Life', 'Pleasure', 'Self-Respect' and 'Social Recognition' as identified by Rokeach (1973, 1979), and 'Materialism' as discussed by Dittmar (2004) are central in the participants' value systems and their emotional/affective responses to transport in this light are central to attitudes and beliefs towards different modes. A particularly important implication of this is the degree to which these values (and affective responses based on them) are considered equal to, if not more important than the behavioural and control factors influencing the participants' attitudes towards transport modes. This adds to comments made by Goodwin (1995) by illustrating the importance of the emotional response to the car, in the context of all of the factors influencing young people's attitudes, behaviour and behaviour intention towards transport.

- With respect to the participants' 'willingness to tackle climate change' as an individual personal/moral norm there is a need to improve the understanding of climate change amongst these participants, the link between this and their travel behaviour intentions, and what they themselves can do to tackle this issue (thus their 'sophisticated' understanding). With respect to providing new information to young people, the following insights are considered key:

- The majority of the participants are aware of the consequences of climate change (although often the more dramatic consequences), but are unsure of the causes - in particular the contribution made by transport.

- Reflecting the findings of previous studies, a number of the participants confused climate change with destruction of the ozone layer, and linked the need to recycle with efforts to tackle climate change. However, recycling does reduce the need to produce more goods and thus the greenhouse gases generated in doing so. Therefore this link is not completely unfounded.

At the same time, the participants indicated that more information is something they require and desire – pointing to simple information about *how* they can tackle climate change, rather than that in relation to the problem of climate change itself. This finding therefore extends and adds to those findings reported by Anable et al. (2006), by focusing on the understanding and information needs of young people before (as well as just after) the point of licence acquisition in particular.

- Also in relation to 'willingness to tackle climate change', the majority of participants indicated that they do not feel a sense of responsibility for climate change. In explaining why, they referred to the inconvenience of changing their behaviour, the fact that they would be going against the social norm by using modes other than the car, and that they are unprepared to do so if no one else does the same. Several participants also suggested that their concern about issues in the present, such as exams and homework, take precedence over that in relation to the likely impacts of climate change in the future. Similarly, a small number of the 18 year old female participants suggested that young people have difficulty visualising the future and, even if they do, they spend more time worrying about how they will obtain a job than they do about climate change.

- It is concluded that improvements in understanding of climate change could in turn improve the awareness of the participants with regards the consequences of their current/intended travel behaviour. This together with finding ways to improve their self-efficacy with regards tackling climate change and their ascription of responsibility in this regard may in turn increase their willingness to tackle climate change via changes in their travel behaviour intentions. Only if this were possible

would willingness to tackle climate change present itself as a factor worth utilising in relation to 'softer' policy measures aimed at promoting use of environmentally modes and demoting the car.

- Perhaps the most important finding of this thesis is the willingness of a number of the participants (of all ages, each gender and including those able to drive) to accept and even welcome enforced behaviour change in light of reducing the environmental impact of their (and others) current/intended travel behaviour (which in this case is towards an intention to drive), as long as there are viable alternatives. In this sense it appears that they recognise that by forcing everyone to act in the same way, it removes the problem of the social dilemma – an issue a number of the participants referred to as a reason not to make voluntarily changes (despite recognising and applauding various ways in which they could do so). In this sense, and with respect to the aims of this thesis, it would appear that there is a potential for their willingness to tackle climate change to influence their current/intended travel behaviour – but only in relation to enforced behaviour change.

- There were no significant differences in the comments made by age (beyond phrasing), which was both unexpected (on the part of the present researcher) and important with regards the way new information provided to young people is developed and disseminated. This finding suggests that such information could focus on the same issues and be delivered in the same way across young people in the age groups studied. In this sense, further research is needed to investigate beyond the boundaries of this age group in order to assess at what age young people's values and attitudes change.

- Methodologically, an important finding in use of focus groups is that effectiveness is improved by engaging the participants in a task such as photography prior to the focus groups. This was evident from the way that participants in Wave 2 appeared quicker to relax and contribute to the discussions once they began. Such a method allows the participants to take part in the research for a longer period of time and to produce something concrete (to them) as a result. It therefore gives them a sense of ownership over the research. In turn, focus (or 'discussion') groups are considered invaluable with respect to identifying and following up (via further questioning) issues such as cognitive dissonance, impression management, and

participant anxiety – something that is not possible via self-completion questionnaires, for example.

11.6. Further research

In addition to the key findings and contributions to knowledge outlined in this chapter, a number of tasks can be identified with respect to future research. At the top level, it would appear useful to carry out a study for a representative sample in order to test/substantiate the research framework developed and, in turn, establish the degree to which the findings outlined above, are applicable to young people (within the 11 to 18 yr-old age range) on a wider scale and the degree to which they vary by age and gender. This could take the form of a questionnaire, focusing on the key findings noted above, followed by a quantitative modelling exercise - thus mirroring work by Taniguchi and Fujii (2007) who used panel data to test a model that combined the theory of planned behaviour, norm activation theory, a theory implementation intention, and theories of habit. However, a number of factors (as identified in Chapter Five) would need to be considered. Firstly, such a methodology would need to take into account the participants' understanding of the questions, questionnaire fatigue, and literacy skills. For this reason, it would appear inappropriate to rely on participant self-completion of questionnaires without appropriate support. The questionnaires would therefore need to be completed in the presence of the researcher, or a member of the research team.

As discussed in Chapter Six and in Section 11.4. above, it is also recognised that the sample recruited for the present study was limited by both what the sample controlled for (which did not include, for example, car owning vs. non-car owning households, people living in areas with good vs. poor access to public transport or schools with/without travel plans) and the sub-regional applicability of a number of the findings. Thus, it would be useful to expand future research to other regions, in order to explore the national applicability of findings (for example, how does acceptance of enforced behaviour change differ in areas with and without good access to public transport?), as well as identify specific groups of interest – as done so by DfT (2007h). DfT (2007h) investigated the travel aspirations, needs and behaviour of young people and used purposive sampling (via quota-setting) across certain key variables (including social

grade, living circumstances, economic activity, regularity of public transport use, driving status and access to a car, and ethnicity), in order to,

> "…capture and explore the full range of phenomena and processes and to explore the factors underpinning attitudes, choices and behaviour" (DfT, 2007h)

Further to this, although a number of issues have been identified by this study as relatively widely held amongst the participants, it has been acknowledged that information, and therefore beliefs and attitudes, are in a constant state of change, and therefore it would be naïve to assume that all possible answers could be accounted for in one questionnaire. As such, it is suggested that a sub-sample of the respondents who have completed the questionnaire could take part in a series of discussion groups, focusing on the questions asked in the questionnaire, in order to confirm understanding and explore answers that may not have been included. It has also been found that picture prompts are an effective way of stimulating thinking, and for this reason it is suggested that such a technique could be incorporated into the questionnaire.

At the same time, as noted in Section 11.4, it is also suggested that a range of other methods could be used as part of a major project. Such methods could be used in conjunction with, or perhaps more effectively (with respect to formulating the 'right' questions) prior to the questionnaire suggested above (for example, a sub-sample of participants could collect photos that could be integrated into the larger survey). This would appear particularly important considering the number of issues highlighted by this thesis and the need to understand some of these issues in more detail. For example, with respect to the discussion of theoretical frameworks presented in Chapter Three, it is clear that only the Value Belief Norm model (Stern et al., 1999) includes a concept of value. Considering this model has been somewhat ignored with respect to transport studies, it is perhaps not surprising that the importance of values has received relatively little attention in this context, in comparison to the importance of beliefs and attitudes.

The importance of values has been highlighted by this study, although they were not explored directly. One way to explore the influence of this factor is to use a variation on Rokeach's (1973) value survey. According to Krishnan (2001), this is the most commonly used instrument for measuring value system. It has two lists of values arranged alphabetically – one consisting of 18 terminal values and the other consisting

of 18 instrumental values. Each value is presented along with a brief definition (for example 'Social Recognition' – respect and admiration) and respondents are asked to arrange the values in each set in order of importance as guiding principles in their life, thereby recording their value systems. The value survey has been found to be both reliable and valid (Krishnan, 2001).

Another potential method for investigating the role of values in this context is to explore a number of different transport scenarios (via discussion groups) and the reasons why young people would favour one over another, then compare across their decisions to find common reasons/themes, which in turn could highlight the values underlying such reasons. These scenarios could include that outlined in the discussion groups used in this study (i.e. reducing less necessary driving in particular) and then compared to a wide range of others (whether they are likely to become a reality or not) such as removing the car entirely from town centres and only allowing buses access; introducing a standard 'environmentally-friendly' car that has to be driven by everyone, so everyone drives a car that looks the same as the next; having covered cycle paths and walkways to protect people from the weather and cycle parks offering secure storage facilities. The participants could then be prompted to consider, in depth, why they would, or would not, be in favour of each scenario.

A similar method could also be used to explore in more detail how accepting young people would be of enforced behaviour change. Although useful findings were elicited from the present study, a series of discussion groups could focus on this issue in particular, presenting the participants with more information about such potential scenarios and allowing them more time to consider the advantages and disadvantages of each. Further, as noted in Section 11.4., this methodology would also be useful in exploring the participants' understanding of, and attitudes towards, climate change, by presenting them with realistic scenarios in relation to the impacts of climate change on them as individuals. Thus, it would also be possible to explore whether information provided in this way would prove effective if given to young people (and possibly society as a whole) on a wider scale.

Linking to this, it is also considered important to further explore the information received by the participants in relation to climate change. One particular method that may prove useful in this context is a diary study where participants would be asked to spend a period of time collecting information about where, when, and how they receive

information about climate change, and of what this information consists. For example, when watching television, they could note down when a programme mentions climate change and in what context. In the same way, they could carry out the same task at school and in relation to family or peer interaction. Through a more focused task such as this, it may also be possible to identify particular role models influencing the participants and the potentially important role of siblings as a source of information, as noted in Section 11.4.4. above.

Beyond furthering understanding of the factors influencing young people's travel behaviour intentions, it is also recognised (and has been noted previously) that a deeper understanding of the participants' actual travel behaviour (in addition to their stated travel behaviour) would be useful with respect to the scope for actual behaviour change. Such research could investigate the actual control factors (or 'opportunities') influencing the participants' travel intentions. Do they have access to public transport? Do they live within walking distance of school? Do they intend to drive to work in the future, or use more environmentally friendly modes? Information regarding control factors influencing their current behaviour could be gathered via a large-scale survey, as well as via additional qualitative research tasks. Ethnographic or travel diary-based studies may be particularly useful in this context. By using the former method, the research could obtain first-hand data about the participants' actual (rather than 'stated') travel behaviour. Via use of the latter method, more detailed information (than that gathered by the present study) about individuals' travel behaviour could be gathered for discussion in paired interviews or focus groups analysing current travel behaviour in particular. For example, the panel study by Taniguchi and fujii (2007) (referred to previously) used three-day activity-travel diaries to investigate the travel behaviour of 10-11 year old students (and their family members) in Sappro, Japan. The diaries allowed the participants to log start times, end times, types and locations of all their activities, as well as the mode of transport used to travel to and from these activities. The diaries were then taken away and analysed by the researchers, before information was given back to the participants in relation to the ways they could change in their current behaviour in order to reduce their CO_2 emissions. Questionnaires were given to the participants before and after the diary study and the results of each of these activities were discussed by the participants and researchers.

Further to this, information regarding the participants' (in the present study) future intended travel behaviours could be gathered via a longitudinal study (although the

timescale of such studies can be prohibitive) or by examining young peoples' 'stated responses' (or stated intentions/preferences) in relation to future scenarios put to them by the researcher (in a similar manner to that outlined above in relation to the impacts of climate change). For example, they could be asked how they see themselves travelling to university, or to and from university if they move away from home; how they picture themselves travelling to work; or how they would travel, once they are able to drive, to do their shopping if they lived outside walking distance to the local shops or supermarket. In order to assess the validity of their stated behaviour intentions, it would also be useful to ask the participants about their current behaviour before asking them about their future intentions. In doing so, it would be possible to analyse what they said in each situation and the degree to which the answers correspond, or contradict each other.

It is recognised that such studies would require a great deal of thought and planning with respect to the information likely to be elicited and the practicalities of their implementation. In this sense (reiterating comments made above), it is recognised that the present thesis would have benefited from a extensive piloting phase, in order to assess the degree to which each of thee additional/alternative methodologies (discussed above) would be appropriate when working with young people (of the ages focused upon by this thesis), as well as attempting to meet the research aims. At this stage they are only propositions, but reflect the wide implications of the findings elicited by the present study and the possibilities for future research.

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Appendix A

Bus industry – insights from a workshop

A workshop was carried out in January 2006 and involved 15 members of the Ten Percent Club, the title of which originated in response to the 2000 Government target to increase national bus patronage by 10% over the following ten years. The club began meeting in 2004 to discuss ways in which marketing could unlock the potential for growing the use of bus and rail services. The members that took part in the focus group represent bus companies from across the UK, marketing companies that work closely with such companies and academics and consultants with a professional interest in this industry.

Following a fifteen minute presentation outlining the present PhD to date, the group was posed a list of research questions that remained on display throughout the discussion[1]:

1. **How do you view young people as potential and actual bus users?**
2. **How do bus companies attempt to sell their product to young people?**
3. **Where, why and how do you provide information to young people?**
4. **Do you feel marketing the bus as a more "sustainable" transport mode is a realistic option?**

i. Do you feel that you can communicate effectively with young people about this subject?

ii. Do you feel you have the information to do so?

These questions sparked a lively debate and a number of findings were made. Firstly there was a general sense that the bus industry does not consider young people an

[1] Question one seeks information about the attitudes, perceptions and behaviours of the bus and rail industries towards young people as bus users - insights into which may be compared to those gained from young people about the same. Questions two and three aim to gain insights into the types of bus and rail-related information and marketing the industries provide young people and why how they provide this information. Again this may be compared to the information young people retrieve and how they respond to it. Question four seeks a better understanding of how the bus and rail industry see themselves in the light of issues such as sustainability (in particular climate change) and whether they think these issues are important in terms of marketing and delivering their product. The attitudes and perceptions of young people in relation to this link may then be compared to the findings related to this question.

important group of customers, as distinct from 'adults', when attempting to improve the design and quality of their product as well selling it as a product:

> - we don't measure ourselves as a business from the perspective of young people and when we do quality control we tend to view it through the eyes of people who are much older than that.
> *(Communications Director of a major bus company (male))*

> - Can I ask…whether there's anything in your bus design group **** *(name of group member quoted directly below),* that related to the design regarding younger passengers?
> *(Editorial Director of major publishing company (male))*
> -I have to say it's not an area that had occurred to me at all. This discussion triggered it.
> *(Group Marketing Manager for rail and bus company (male))*

> - I certainly don't have very much understanding of what we'd actually want to sell to a younger market."
> *(Communications Director of a major bus company (male).*

It also became clear that, although those working in the industry were aware of factors influencing young people's use of the bus, they did not utilise this knowledge when making improvement or providing young people with information. For example, in general, it appeared that a number of participants considered cost an important factor in the transport decisions of young people, but only two of the participants had attempted to target this issue - and one of these simply consisted of the option to bulk buy tickets. Similarly, despite recognising factors such as self-identity and image in relation to young people's attitudes towards the bus, the majority had not attempted to target these in reality. However, it is of significance that these factors are recognised by this industry and that there was a general agreement that they need to understand these factors in more detail,

> - …the old people say "this is my public space, I own this metro carriage" or "this bus deck", and "you have to fit into the models of behaviour that I have set." - and I think that could well be an issue where young people feel alienated

from a public space and they end up trying to find their own…you know "I'm going to get a car" when they are of the age.
(Group Marketing Manager for rail and bus company (male))

- I'm thinking in a sense that this is a public space and it needs to have some kind of, what's the word, affinity with people's values. Now kids in cars presumably feel at home, I mean there's things around them that makes them feel this is an environment I want to be in. And there's something about the bus as a space which is probably not very comfortable if you want to express your views and your prejudice or your, coolness or whatever."
(Editorial Director of major publishing company (male))

- If you were putting i-pods in the back of your buses, don't you think even if they didn't use them, they'd say well at least they understand what we do now?
(Editorial Director of major publishing company (male))
- Oh yes, that's a very important point. …you've got to relate to your market place- it isn't just providing necessities, it's understanding what their lifestyle is about and relating to it, even if they are things that aren't used.
(Design Director of major transport design consultancy (male))

- we tried to push the whole freedom idea, because we actually have a 12 journey card, 12 journeys for the price of 10, and we actually bill it as the Young Person's Freedom Card, to create that feeling that they can go off and do their own thing."
(Marketing and Communications Manager of major bus provider (female))

In relation to providing information about the bus in light of its potential to reduce the contribution of transport to climate change (i.e. if each bus is full of would-be car-drivers, it could reduce the level of greenhouse gas emissions produced by each person), it appeared that, on the whole, the bus industry does not consider this a viable message. There were two main factors that appeared to influence this opinion. Firstly, a number of participants referred to the idea that the public (including young people) is bored of hearing about 'green' issues,

> - I think we're getting a bit jaded by green…we're in the process of launching an initiative with employers and we actually did some research before we actually started pulling the literature together, and it was "green is passé". *(Marketing and Communications Manager of major bus provider (female))*
>
> - When we launched out 16-18 concession, we interviewed a good number of sixth-formers at a cross section of secondary schools, and the green thing as a reason for using the bus, because they were very much pro-users, didn't feature at all. It was all about the money"
> *(Manager in the bus industry)*

Secondly, several participants pointed to a lack of information and a 'clear message' to give to the public on this subject, particularly in a style appropriate for young people. They believe there needs to be further research in this area, but their current lack of information in this context appeared to dampen their enthusiasm in promoting the bus in this manner:

> - I mean what message would you use for the bus serving Nottingham University, or the bus serving New Orleans Comprehensive? I'm sure they would need to be very different – but we need to find out what that difference is.
> *(Communications Director of a major bus company (male))*
> - Yeah, I mean, if you were to try and sell the green story where I live where you've got one or two people on a damn great bus trundling along belching out diesel smoke, they're going to be critical. But if you're in London, where you're filling up double-deckers, and getting cars off the road you'll have more success – but it's not a straightforward exercise.
> *(Editorial Director of major publishing company (male))*

Thus, overall it would appear that information from bus companies may not be targeted directly at young people and that a key reason for this lies in a lack of understanding of this age group by those working in this industry, as well as a lack of utilisation of the knowledge they do have in this context. However, it does appear that they are aware of the need for further understanding, particularly in relation to factors relating to self-identity and image. In relation to promoting the 'green credentials' of the bus, a number of participants considered this unlikely to win more customers due to public apathy towards this subject, and several others pointed to a lack of understanding in

relation to the type of information they should give to their customers in the first place. As such, it is considered useful by this thesis to further explore the attitudes of young people towards the bus, (including in relation to tackling climate change) and the sources of information that are influential in relation to such attitudes. Findings in this context will be compared back to those from this workshop.

Appendix B

Focus Group Administration

Contents:

Director of CTS
Professor Glenn Lyons

PhD Researcher:
Tilly Line

Director of Studies:
Dr Kiron Chatterjee

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14 November, 2005

Dear

Having spoken to your colleague ********, and she recommended I contact you regarding some exciting new research I am undertaking at the Centre for Transport and Society, University of the West of England, Bristol. The study in question is entitled "The Attitudes of Young People Towards Sustainable Transport" and I would be extremely grateful if you would consider allowing your students the opportunity to take part in the research.

It would not take up a huge amount of your time and will provide an opportunity for the volunteers to 'make their voice heard' in terms of how transport affects their social world and the environment around them. The research will involve the use of photography and discussion groups to create an enjoyable, creative and unthreatening research experience.

In summary, and subject to discussion with yourself, I would like to invite twelve 11 year-old, twelve 15 year-old and twelve 18 year-old students to take part in the study. A short initial meeting (around 10 mins) would provide the volunteers with information, instructions and equipment (2 disposable cameras each) so that they can spend two weeks gathering a few photos and images to be used in discussion groups. Another short meeting will be needed at the end of this two week period to collect the material and answer any questions the volunteers may have. Approximately a week after this, the discussion groups will take place, lasting about 40 minutes each.

I will be in touch shortly to see whether you would be happy to arrange a meeting to discuss the study further. In the mean time I have enclosed a briefing sheet for the project which explains the study in a bit more detail. Please feel free to contact me in the mean time on the details shown above. I look forward to speaking to you soon.

Yours faithfully

Tilly Line

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Dear Parent

I am writing to you with regard to some exciting new research I am undertaking at the Centre for Transport and Society, University of the West of England, Bristol. The study in question is entitled "The Attitudes of Young People Towards Sustainable Transport" and your child has expressed an interest in taking part in the project. As such, I would be extremely grateful if you would consider allowing your child the opportunity to be involved in the study.

The main premise of the research is to provide an opportunity for the volunteers to 'make their voice heard' in terms of how transport affects their social world and the environment around them. The research will involve the use of photography and discussion groups to create an enjoyable, creative and unthreatening research experience.

Included with this letter is my PhD briefing sheet which explains the study in a bit more detail. I have also enclosed a 'Parental Information Sheet and Consent Form' for you to read and, if you are still happy for your child to take part, sign and return back to me (via their teacher) before the discussion group, which should take place in four weeks. I have also provided your child with an information pack so that they fully understand what the project involves and what is expected of them.

If you have any further questions, or you require any more information about the project, please don't hesitate to contact me on the details given above.

Yours faithfully

Tilly Line

Parental Information Sheet & Consent Form

Title of study: THE ATTITUDES OF YOUNG PEOPLE TOWARDS TRANSPORT

- **Description of the study:**

The purpose of this study is to examine the way young people think and behave in relation to transport and the effect it has on the environment. It aims to give young people an important opportunity to talk about the subject *in their own words* and in turn, the findings could contribute to policies and interventions developed to educate young people about transport and the environment.

- **What's involved:**

This study will require your child to take part in a one hour discussion group with three/four other volunteers of the same age. This discussion group will be moderated by myself and another PhD researcher (David Holley). The discussion groups will focus on these volunteers' attitudes to 'the car' and 'the bus'; what sources of information about transport they are exposed to (for example television adverts, what their friends think etc); and what type of transport they use.

The discussion group will be both audio- and video-taped to assist in analysing information for the purposes of the study described. These audiotapes and videotapes will be heard by myself and my PhD Supervisor only, and used solely for the purposes of this study. The tapes will be destroyed within two years of completion of the study. If should you wish it, the tapes can be destroyed at any time.

- **Potential risks and ethical considerations:**

No risks are known to the researcher at this time.

- **Confidentiality:**

The information given by your child will be kept strictly confidential. All information will be identified by an identification code, not by their name. Any form that requires their name (e.g., this consent form) will be stored separately from the other material. Their name or other identifying information will never be associated with any research reports or publications that use the results of the discussion groups.

- **Withdrawal / premature completion:**

Your child's participation is voluntary, and they, or you, may discontinue this participation at any time without prejudice.

- **Invitation to ask further questions:**

If you have any questions about the study before you sign this consent form, please don't hesitate to contact me or my supervisor on the details given below.

CONSENT:

I give my informed consent for *(print name of child below)*:

……

to participate in this study of 'The Attitudes of Young People Towards Sustainable Transport'. I have read and understand the consent form. Upon signing below, I will receive a copy of the consent form from the principle researcher (Tilly Line).

Name (Printed):…… Date:……..

Name (Signature):…… Date:……

Name (Researcher):…… Date:……

Principle Researcher: Tilly Line

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Tilly.Line@uwe.ac.uk

Co-moderator: David Holley

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david2.holley@uwe.ac.uk

Research Supervisor: Dr. Kiron Chatterjee

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PhD Researcher:
Tilly Line

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University Line 0117 32 83890
Mobile: 07906952990
E-mail: Tilly.Line@uwe.ac.uk

Dear Participant

Thanks for volunteering to take part in my research project. This letter is just to explain what you need to do next but if you have any problems at any time please don't hesitate to contact me using the details above.

Firstly you need to read and make sure you understand the consent form. This will explain a little about what the project entails and what you will be expected to do. As long as you are still happy to take part, you will need to sign the form and hand it back to either Mr Dagger or myself, before the discussion group. If you are under 18 years of age, you will also need to ask your parents for permission to take part in the project. There is a separate parental information sheet / consent form for this purpose.

In terms of your role in the project, I'd like you to spend some time (within a two week period) collecting half a dozen images (or more if you want to) for each of the two topics: a) **the car**, and b) **any other form of transport** (e.g. walking, cycling, bus, train etc). The images need to reflect your attitudes and behaviours towards both of these topics. You will each be given two disposable cameras (one for each of the topics), but the images can be in any form, such as a photo, a drawing, a printed picture from a magazine, or an image from the internet.

Any ideas you have will be extremely useful, but just in case you're unsure of what images to collect, you could consider the following:

- What types of transport do you use?
- Who do you travel with?
- When do you travel?
- Do you use different types of transport for different journeys?
- Do you enjoy certain ways of travelling? Which ones?
- What's it like being inside the car? What do you see out of the window? Who is in the car with you?
- What's it like to travel by foot, or bike, or bus or train?

- Do you notice transport on the TV, or in things you read?
- Which types of transport don't you like?
- Is there anything else about transport, or *travelling*, that you don't like?

Just remember, it isn't a test! You don't have to follow these suggestions - anything you collect will be helpful. But try and think of things that are particularly important ***to you***. Try not to be too influenced by the others taking part. All of your individual ideas are important, and a combination of lots of different ideas should make for a more interesting discussion.

Thanks again for taking part!

Yours faithfully

Tilly Line

Consent Form

Title of study: THE ATTITUDES OF YOUNG PEOPLE TOWARDS TRANSPORT

I understand that the discussion group I have agreed to take part in will be asking me about the way I think and behave towards transport.

I am happy to take part in this discussion group and the things I say can be used in the project called “The Attitudes of Young People Towards Transport”.

I understand and am happy that the discussion will be audio-taped and video-taped

I understand that these tapes will be destroyed two years after the study has finished, but I can ask for them to be destroyed at any other time if I want them to be.

I understand that my name will not be used in the final report.

I understand that I can stop being part of the study if I want to, at any time.

Signed: …….

Date: …….

Consent Form

Title of study: THE ATTITUDES OF YOUNG PEOPLE TOWARDS SUSTAINABLE TRANSPORT

- It is understood that you have agreed to take part in a discussion group as part of the research study "The Attitudes of Young People Towards Sustainable Transport". However, you need to read this consent form and, if you still want to take part, sign it to say that *you have read and understood what is involved in the project and give your consent to take part.*

- The purpose of this study is to examine the way young people think and behave in relation to transport, and the effect transport has on the environment.

- The discussion will be both audio- and video-taped to help me analyse the information given by you, and the other volunteers in the group. The tapes will be listened to, and viewed, only by myself, a fellow PhD researcher (David Holley, who will also be present during the discussion group) and my supervisor (who won't be present during the discussion group), and used only in relation to this study.

- The tapes will be destroyed two years after the project has finished. But, if you wish, the tapes can be destroyed at any time.

- The information given by you will be kept strictly confidential. Your name will be replaced with an identification code, and this form will be kept separate from other material.

- Your participation is voluntary, and you are free to withdraw from the study if you want to, at any time.

- If you have any questions about the study before you sign this consent form, please contact me or my supervisor on the details given.

CONSENT:

I give my informed consent to participate in this study of 'The Attitudes of Young People Towards Sustainable Transport'. I have read and understand the consent form. Upon signing below, I will receive a copy of the consent form from the principle researcher (Tilly Line).

Name (Printed):……. Date:……..

Name (Signature):……. Date:…….

Name (Researcher):……. Date:…….

Principal Researcher: Tilly Line

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Research Supervisor: Dr. Kiron Chatterjee

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Mobile: 07906952990
E-mail: Tilly.Line@uwe.ac.uk

13th February, 2006

Dear *****

Just a quick letter to confirm that the date for the hand over of cameras is on ********* and the date for the discussion group is **********.

I hope the image-collecting is going well! I will see you on ********, but please don't hesitate to get in contact with me if you need and further advice or information.

Best wishes

Tilly

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Tilly Line

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http://www.transport.uwe.ac.uk

25 February, 2006

Dear

I am writing to thank you for taking part in my research project. Your input to the discussion group was excellent and all of your thoughts and ideas have proved very useful.

Every member of the discussion groups contributed something interesting. Each of you also showed respect in listening to what the other group-members had to say, and this made the groups a pleasure to work with.

Overall you have represented the voice of young people admirably, and I am very grateful to you for your help.

Thanks again

Tilly Line

Appendix C

Focus Group material

Contents

Moderator Guide

Begin by introducing myself, the assistant moderator, what the discussion is about, the video camera and the Mp3 player:

- Thanks for taking part.
- This is ****[1] who will be sorting out video and MP3.
- I'm going to ask you a few questions which I'd like you to think about and discuss with each other.
- It's not a test - anything you say is helpful – don't be afraid to say what you think.
- Please be respectful of others in the group – let everyone have a chance to speak.

SECTION A: ATTITUDES

1) Lay out the neutral images of car and the bus (Images: 1.1 and 1.2)

"I'm going to give you a few minutes to look at these images of a car and a bus and write down some words that come to mind when you think about cars and the same for buses."

Potential questions:

- What words did you come up with for the car?
- Why did you think of that word?
- Did anyone else have that word?
- Does anyone have a different word?

→ **Ask the same questions in relation to the bus.**

2) Lay out the positive images of the cars (Images: 2.1 – 2.3[2])

Potential questions:

- What did you think about the pictures? WHY?
- Do you like cars? WHY?
- What is it about them that you like / dislike? WHY?

[1] The Assistant Moderator
[2] The first group (the 11 yr-old males were also shown images 2.3a and 2.3b at this point, but it was decided that so many images may be overwhelming and it may also be more interesting to consider the positive and negative aspects of the car separately. As such, the following groups were shown the positive and negative images of the car separately.

3) Negative images of the cars (Images: 3.1 – 3.3)

Potential questions:

- What did you think about the pictures? WHY?
- What is it about them that you like / dislike? WHY?
- What do you think about the *image* of buses? WHY?
- Do you ever think about the cost of making a journey by bus? WHY?
- Do you ever think about the environmental affects of using a bus? WHY?
- Do you think that buses can be good for the environment? WHY?

4) Images of the bus (Images 4.1 – 4.5)

"Again, I'd like you all to look at these images of the bus, have a chat among yourselves about what you think of them, and how they make you feel."

Potential questions:

- What did you think about the pictures? WHY?
- Do you like buses? WHY?
- What is it about them that you like / dislike? WHY?
- What do you think about the *image* of buses? WHY?
- Do you ever think about the cost of making a journey by bus? WHY?
- Do you ever think about the environmental affects of using a bus? WHY?
- Do you think that buses can be good for the environment? WHY?

SECTION B: Information

5) Information about the car

i) **"If we can focus on the car for a moment, where do you get information about cars?"**

Potential questions:

- Can you think of ways that you've found out stuff about cars? (use images 5.1 – 5.3 here)
- Has that information made any difference to your opinion of / behaviour towards cars?

ii) "What about the environmental impacts of car use – where have you got that information from?"

Potential question:

- "Has that information made any difference to your opinion of / behaviour towards cars?"

2) Information about the bus

i) "If we can focus on the bus for a moment, where do you get information about buses?"

Potential questions:

- Can you think of ways that you've found out stuff about buses? (use images 5.1 – 5.3 here)
- Has that information made any difference to your opinion of / behaviour towards buses?

iii) "What about the environmental impacts of bus use – where have you got that information from?"

Potential question:

- "Has that information made any difference to your opinion of / behaviour towards buses?"

SECTION C: Climate change

6) Climate change (Images 6.1 - 6.4[3])

Potential questions:

- What about climate change in general, what do you know about that?
- Where did you get that information from?
- Do you know that cars are linked to climate change? What do you know about that?
- Where did you get that information from?
- Does climate change worry you?
- Do you think you can do anything about it?

[3] The 11 yr-old males did not have any images for this section.

- Would you be prepared to walk and cycle more, and use the car less, if it would help climate change?

SECTION D: BEHAVIOUR (Using images 7.1-7.5[4])

Potential questions:

- What types of transport do you use most?
- Why do you use them?
- Do you like them?
- Do you choose to use them?
- Would you rather choose another type of transport?
- Would you be prepared to change your behaviour?
- What (else) would make you change your behaviour?
- What if you were forced by the government to change your behaviour?

THANKS

- I'm afraid that's all we've got time for today.
- Thank you all for your comments and discussion.
- I'm going to leave my details with Mrs Johnson, just in case you think of something after today that you'd like to tell me about.

[4] The 11 year old boys did not have any images in this section and the questions were confined to asking them about the other forms of transport they had already mentioned – the train and cycling.

1. Images for focus groups in Wave 1

Image 1.1.

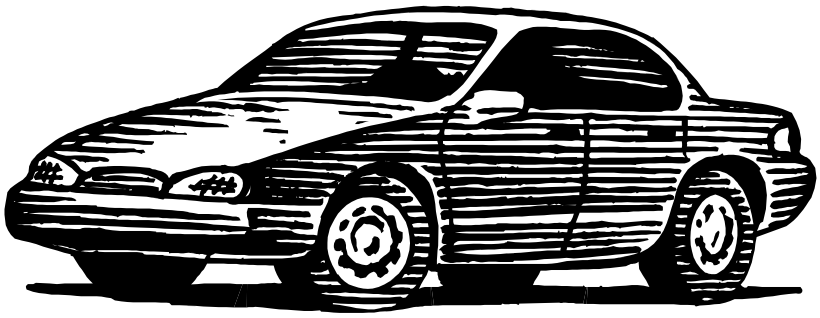

Image 1.2

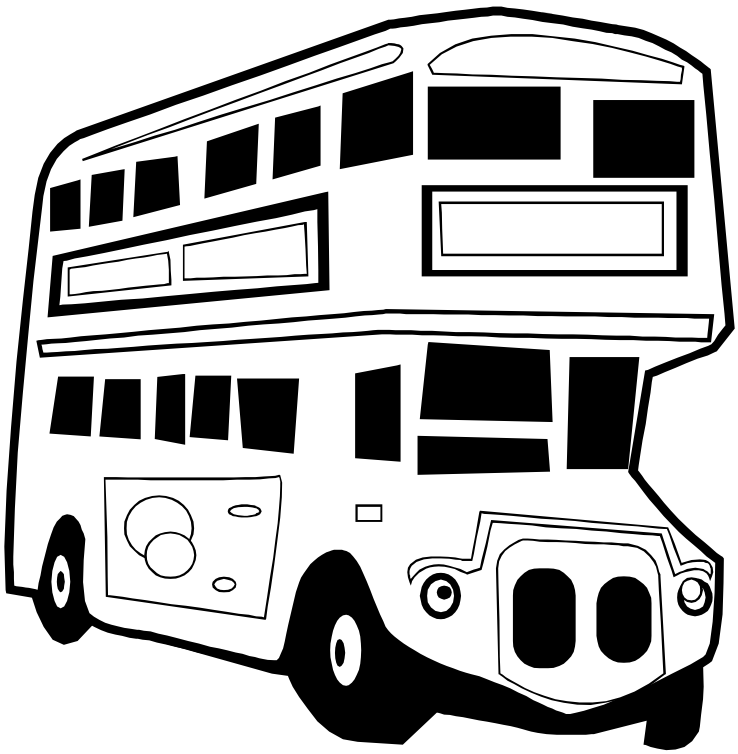

Image2.1

(source: http://www.mitsubishi-cars.co.uk/shogunpinin/viewimage.asp?view=2)

Image 2.2

(Source: http://www.mitsubishi-cars.co.uk/shogunsport/)

Image 2.3

(Source: http://www.dieselstation.com/wallpapers/Aston-Martin-Vanquish-V12-S/Aston-Martin-Vanquish-V12-S-010.jpg)

Image 3.1.

(source: http://www.transport2000.org.uk/activistbriefings/CongestionCharging.htm)

Image 3.2.

(source: http://www.et.co.uk/cgi-bin/press.cgi?ID=50&section=1000&category=1000&display=photo)

Image 3.3.

(source: http://www.visionengineer.com/mech/exhaust_gas_recirculation.shtml)

Image 4.1.

(Source: http://www.timmonet.co.uk/html/bath_bus_station.htm)

Image 4.2.

(http://www.mkdayout.btinternet.co.uk/shenley_westcroft_bus.htm)

Image 4.3.

(Source: http://www.eastbournebuses.co.uk/buses/50.htm)

Image 4.4.

(Source: http//www.moblog.co.uk/view.phpid=73203)

Image 4.5

(Source: http//www.pates-grammar.star.co.uk/2001F7/journ.htm)

Image 5.1.

(Source: http://www.carpages.co.uk/citroen/citroen_c4_13_11_04.asp?switched=on&echo=97107028)

Image 5.2

(Source: http://www.visit4info.com/details.cfm?adid=6959)

Image 5.3

(Source: http://www.vintageweb.net/ccpa/others.htm)

Image 6.1

(Source: http://www.greenpeace.org/international/photosvideos/photos/walrus-on-ice-floe-greenpeace-2)

Image 6.2

(Source: http://www.foe.co.uk/northern_ireland/campaigns/climate/)

Image 6.3

(Source: http://www.transport2000.org.uk/goodpractice/KesgraveSchool.htm)

Image 6.4

(Source: http://www.connexions-cd.org.uk/what.asp)

Image 7.1

(Source: http://www.et.co.uk/cgi-bin/press.cgi?ID=50&section=1000&category=1000&display=photo)

Image 7.2

(Source: http://www.timmonet.co.uk/html/bath_bus_station.htm)

Image 7.3

(Source: http://www.transport2000.org.uk/goodpractice/KesgraveSchool.htm)

Image 7.4

(Source: http://www.connexions-cd.org.uk/what.asp)

Image 7.5

(Source: http://www.firstgroup.com)

Please put your initials here:

……..

Words I associate with the

car

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Words I associate with the

bus

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"The Car"
(******)

Photo 1

What are you trying to show in this picture?

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Why did you want to 'capture' these ideas or thoughts?

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Photo 2

What are you trying to show in this picture?

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Why did you want to 'capture' these ideas or thoughts?

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Photo 3

What are you trying to show in this picture?

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Why did you want to 'capture' these ideas or thoughts?

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Appendix D

Discussion group transcript

Transcript: 11 year old girls (Photographic work)

Present: Moderator: Tilly Line
Participants: A, B, C and D as looking from left to right

Having switched on the camera and sat down, the participants appear quite excited, pointing at the photos sheets and commenting on the Mp3 player. Tilly hands out the sheets. One of the participants comments that Tilly had spelt their name wrong. They then begin comparing their pictures, pointing out ones they find funny, and laughing at why they took pictures etc. After a couple of minutes…

Tilly: Right, to start off with, could you possibly just look through your photos, but I only want you to answer, depending on how many you've got for each camera
B: (Interupts) I've only got one.
A: I've all twenty seven for each camera.
Tilly: I know. I only want you to answer the questions for two pictures for each camera. So obviously you just do that one (looking at B)
B: Yeah
Tilly: And I think you've (referring) only got one for any other form of transport.
A: So choose the best ones from each camera
Tilly: Yeah, and where I've grouped them together, like you've (referring to C who has just turned over the page where there is a group of three pictures) got three in one, you can talk about them as a group or individually. It's just that they appear to be almost the same picture or a very similar theme.
D: (Looking at C) Is that what your house looks like?
A: I took a few of people accidentally, because I was trying to take one of a car and they were crossing the road.
Pause
Oh look, that's when the dustbin men came.
Tilly: Yeah so if you could look at two for each camera and I'll give you about ten minutes to do that.
A: That's when we watched an England game….oh my god that looks so weird…oh they didn't come out at all!
C: What?
A: That's not fair. Look, that when we caught it in the camera…
Tilly: (Seeing that she is talking about the photos of planes very high in the sky) I've blown one up and you can just about see it. Are they all of planes?
A: Most of them.
Tilly: Yeah
A: (Laughs at one of her pictures and B looks across) As if I'm on a bike.
Tilly: Do you understand the questions alright, you understand what I mean?
The participants all say that they do.

A: Oh, none of my…oh my Dad, er he's got no shirt on (laughs)…oh that's the one I want to do – my Brother. I like my Brother. He's eighteen (looks at the other participants with a proud look on her face).
At this point the other participants are quietly trying to answer the questions – A seems to find it impossible to do the same – she can't stop talking.
What are you trying to show in this picture…someone walking.
Tilly: Yeah, just what you're trying to take a picture of, and why you wanted to take a picture of it.
A: Stupid pen…Do you have to be able to read the writing?
Tilly: It would help, but don't worry about it too much.
A: That's OK then (laughs)
Tilly: You all look like you can write perfectly OK.
C shows Tilly her writing. Tilly nods.
C: (Reading what she has just written) That walking can be very energetic, however…
A: (Looking at B's sheet) You've got half a picture there as well, or is that on the other side (B turns the sheet over)
B: It's on the other side
A: Is that ***? (a boy's name)
B: It's *** (a different boy's name) (she giggles looking at the photo)
A: It doesn't look like ***! (who it actually is)
C: Yeah it does. You've never seen *** (the boy A thought it was) properly.
A: Why did you only take two pictures (to B)
B: I didn't…I don't think (she looks at Tilly, but Tilly didn't notice)
A: Look, that's *** on his bike.
B: Who?
A: ***, he lives at the top of my street.
C: Who's ***?
A: Him (she points to the picture)
Pause
Tilly: You can write absolutely anything, because anything you've got to say will be interesting to me. I'm not testing you or anything like that.
A then shows Tilly her wobbly tooth.
B: I don't get the second question.
C: Yeah neither do I.
Tilly: The first one is just asking you what you're trying to take a picture of and the second
B: (Interupts) Oh I've done it wrong now (she says this in an American accent she keeps doing this when she is playing up to the camera)
Tilly: Have you? The second one's asking you why you wanted to take a picture of that.
B: Yeah, I've got them mixed up.
Tilly: It doesn't matter. Write what ever you like.
A: Does this make sense for the first one? Someone enjoying walking to school happily?
Tilly: Yeah that's fine.
A: Even though he's facing the wrong way and he's got no top on. Look (getting B's attention) it looks like he's got a cow up his bum!
A laughs – B looks confused.
C: Why have I taken two pictures of the same thing?
B: (Looking at the boy in the picture) He doesn't look very happy
C: That's because I told him "don't you dare look happy".
B, D and Tilly laugh.

A: Can we look at each other's pictures in a minute?
Tilly: Yeah
A: Good
D: I've got a picture of my Brother here, like that and I was like "look bored. *** look bored!"
Tilly: Oh
D: But he just smiled at the same time that I took the picture and I was like (pulls a manic angry face and clenches her fists)
Tilly: You wanted him to look bored?
D: Yeah.
Tilly: Ahh.
D: I was like "right that's it you're not getting any sweets."
Tilly laughs
A: OK this is outside my house. Literally, that's the lock on my window.
Tilly: Oh right
A: Coz I live just beside a duel carriage-way…which is bad.
Tilly: Mmm, I'm glad I blew up that picture then because we can talk about that.
B looks like she doesn't know what to write.
Don't worry if you can't think of anything, it's just whatever you want to write about just write it down.
A: I want to do the pose, I want to do the pose, where's the pose?
B: What's the second question about again?
Tilly: Just why you took that picture, so say you took a picture of someone looking bored…
B: Oh…
C: Oh because I wanted to see him walking in pyjamas!
A: What would I put then for a dustbin man?
Tilly shrugs her shoulders
C: Because you wanted to see how a dustbin worked!
Tilly: I don't know, why did you take it?
A: Because it was something other than a car.
Tilly: Well there you go then.
A: And because he was looking happy so…the dustbin men are idiots!
D laughs
That's what I'm going to put! Dustbin men like their poses!
B: I'm not sure if this makes sense. Because it shows how people act at different times?
Tilly: Yeah that's fine.
C: Normally my handwriting isn't this rubbish. It's this pen.
Tilly: Well it looks neat enough to me.

For the next few minutes, the participants are writing down the answers, mumbling about the photos to each other (which is indistinguishable) and telling stories.

D: Guys did you see on Newsround, they were talking about…
All the participants say they don't watch Newsround.
A: What was it about though?
D: In Iceland or something, about these cars being run on hydrogen.
A: Yeah.
D: Which country is it?
A: Um, A something.
C: Some horrible country that's not England.
D: I think it's Iceland or something.

A: Asia or something
C: Iceland's green and Greenland's icy, did you know that?
Tilly nods
That's stupid.
D: I'm just going to put Iceland because I think it's Iceland.
A: Whatever!
Tilly: Yeah that's fine.
A burps and then laughs, no one else reacts
B: I've finished.
C: I become disturbed when I'm in the car for a long time (she says this quietly to herself as she writing)
B: Can I look at those pictures (the big pictures for discussion)
Tilly: Not quite yet, we'll all be looking at those in just a minute
B: OK.
A: Can she look at my pictures>
Tilly: Yeah.
A and B then look at A's pictures.
A: I'm done, are we finished yet?
C: I'm done.
D: I just need to a couple more.
C: Oh come on you're so slow.
D: And?
A: You're an idiot…why don't you just make friends with
D: ***?
A: Yeah
D: Why should I?
A: Just make friends
The conversation then moves back to the subject of A's wobbly tooth.
B: (To C) You're teeth look like they're glued on.
C: What to my gums?
B: Yeah.
A: Yeah you're gums are brown
B: And do you paint them coz they're white.
A: What my teeth?
B: Yeah coz mine are like yellow.
A: Look mine's got a huge chip.
B: Er, I just thought that was food stuck up there.
B and Tilly laugh
Tilly collects in the booklets.
Tilly: Excellent, right OK. I'm going to ask you some questions now, and I need you to try and speak individually, so that it's easier for me to write it up later on.
B: OK.
The other participants nod.
Tilly: OK, first of all, how did you find the whole process of taking pictures?
A: Quite hard.
Tilly: Did you?
D: Yeah.
B: Yeah because you've got to know when…I don't know what I mean.
A: Like what to take it of.
Tilly: Yeah?
B: Yeah.
C: I found it very hard because I've never used a camera before.
D: And me.

A then rather aggressively tells D to be quiet, D doesn't really react.

C: And it was like doing extra homework.
Tilly: Oh was it, sorry.
A: I found it fun but it was annoying because when I tried to do it, something else always caught me up.
Tilly: Yeah?
B: No when I tried to do it, it was either because they saw me trying to take a picture of them and they started laughing. So sometimes I had to make them go back to how they was.
Tilly: Yeah. (Looking at D) What about you?
A: It was like just something you did.
B: She's just like a laid back person anyway.
A: Yeah.
Tilly: So it wasn't like a task?
A: It wasn't like a task for me
D: It was hard though…because I've never used a camera before.
Tilly: Oh right, really?
D: Well…
A: I found using it easy, but trying to actually take pictures close up was hard.
C: Yeah coz we have cameras at home but my Dad or my Mum always uses it. Coz once I tried to use it but I cut off their head or their legs or something.
B: Well I only took one of my Brother because he's the one who changes the mood really…like one day he's furious, one day he's not.
A: He changes it and gets like five and a half red letters a day.
B: Yeah I know
Tilly: What so he has a big influence on
B: (Interupts) Mmm…sometimes he likes the car because like…
A: It's true.
B: Um…
A: …you don't have to do anything
B: Yeah you don't have to do any exercise!
Tilly: Yeah.
B: But then he don't like it because like either someone annoys him and he kicks the whole place, the whole car
Tilly: Oh really?
B: Mmm
A: Mmm
Tilly: OK
A: I don't like going in the car because I'm always on my own. My Brother never comes with us because he's too old. Especially when we're going on holiday because I'm sitting there, huge ice-box there and then a friend on the other side, and I'm just so like…bored. With nothing to do.
B: I feel like the car changes who you are.
A: But it's not now because I've got a portable DVD player.
C: Cars can get very boring.
B: It's my turn to speak
Tilly: Sorry
D: Hurry up and speak then.

B and Tilly chuckle

C: Well I reckon the car like changes how you act
A: Yeah I agree.
C: …coz I get annoyed in the car (D nods), my Mum and my Brothers do and it gets them really annoyed because they're like trapped.

A: It's claustrophobic.
B: Yeah you can't just get out, or run or something
Tilly: Yeah?
B: Because some people like running like me.
A: And me.
C: I don't
B: But like we're trapped in this little box thing so you can't and you go a bit mad.
C: It's a car (doesn't seem to get what B is saying)
B: …and sometimes we're stuck in traffic for a long time
A: And it's scary. If there's stuff like rain or thunder of lightening, it's scary, but you know you're safe. Because you're scared because you can see it really easily, but safe because you've got tyres and you know you can't get attacked by it (smiles).
C: I used to get scared in cars because like there's so many cars…you might just crash into them.
Tilly: Yeah
C: You know…and it's so frustrating when you're in traffic jams as well because you can't walk anywhere, you just sit there. I always fall asleep in the car
A: They should get rid of cars because they pollute the earth…they pollute the air and it's bad.
C: I agree.
Tilly: (Looks at D) What do you think about journeys in cars?
D: To be honest with you, if it smells nice it's OK,
C looks at A and B as though this is a ridiculous comment
Tilly: No I've heard that smells can make a difference.
D: But if it's really hot or like stinking, I get really bad headaches and I start to get really eggy. And I mean that really literally, I start to take it out on my Brother. (A and B find this quite funny)
Tilly: Do you get car sick or anything or is it just that you get really annoyed?
B: I get coach sick
A: She gets coach sick. I get bus sick
B: I sometimes do, it depends how long I'm in the car.
Tilly: Apparently that can have something to do with smells as well.
B: I don't like it in the summer in the car because I get way too hot.
A: Yeah it's so hot and opening the windows doesn't help.
C: Put the air conditioning on
A: I haven't got air conditioning.
B: And sometimes it blows dust on to people as well.
A: Not all cars have air conditioning you know
B: And sometimes it makes it warmer.
A: …and I don't like it because my Dad is too tall. And when he sits in the car I have to sit behind him, and if we've got all the windows open, his hair comes back (laughs). And if it's raining and he's travelling with the window open I get soaked.
Tilly: That's not good. So do you ever, do you want to be able to drive?
D: Yeah.
A: Yeah but I don't want to .
C: I want to be a lawyer so I get chauffer driven.
A: I want to drive but I don't want to be driven.
B: Yeah I would like to drive myself but like only when I need to drive.
A: Yeah.
B: If it's not that far away like from here to say *** and it's like a hot day, I would like to walk.

A: Like where you live?
B: Yeah I would like to walk
Tilly: Yeah?
C: I don't, because I don't want to learn to drive because it's so confusing with like gear one and…
A: (Interupts) It's not, my Brother's learning to drive.
C: …and um but like you'd have to walk everywhere because nowadays everyone just drives everywhere and you don't really (aware of the social exclusion issue)…and other cars have got germs on, other people's.
A: We shouldn't have as many cars because I think if you're going to go past on a zebra crossing, you can't always be sure that the car's going to stop, not even coz, if there's lights there, you're not sure the car's going to stop.
B: Cars put your life in danger .
A: Yeah.
B: Because it's safe to walk and it's safe in the car, but a car could just crash into another car.
A: You can get whip-lash by just going like that (gently claps her hands together) on the back of a car. I know because I got whip lash.
Pause
Tilly: Wow, OK you're coming up with some great ideas. We'll come back to them in a moment, but before that, were there any pictures you wanted to take but couldn't?
A: Yeah, a bus and a coach.
D: Yeah
B: Yeah that's what I wanted to do.
D: …and a train, but I couldn't find one.
A: And a train yeah.
B: Because I though if you took a picture of the bus, the bus driver would think you were trying to get the number plate, and then call the police on you.
B and Tilly laugh
Tilly: That's a good point actually.
A: I went to a train station because I had to go somewhere and I tried to take a picture of the inside of a train but I couldn't because all the people were thinking that I was spying on them (B and C find this funny). Because there were a load of police people in the carriage and I tried a picture of a seat and a window and someone was sitting there and they went and got the police from the other carriage.
Tilly: You were on the train? Do you use the train very much?
A: No, it was just a one off because I had to go somewhere.
B: I like the trains and buses,
C: I don't
B: …I don't know why, but I'm around a lot of people and I feel like I am walking.
A: I don't like buses because you don't have no seatbelts.
Tilly: Yeah, we'll come back to those issues about the bus definitely, do you all use the bus?
A: Yes
B: Well only sometimes.
D: Yeah.
C: I have to use it sometimes but I don't like it because other people are sat there and all the seats are…and like at night time when you use it there are these gangs of teenagers who are always sat at the back of buses.
B: You never know what could happen.
Tilly: OK, good point.

Pause
OK, well the next bit…I've blown up some of your pictures and if the person who took it could say a little bit about why they took it…
B: OK
C: Yeah
Tilly: …and then everyone else can kind of comment, and we can get the discussion going if that's OK.
Tilly lays down the first picture, taken by D. C and D both laugh to each other.
A: He's watering, is it your car?
D: Yeah
A: He's watering your car.
Tilly: Can everyone see it?
A: No, but I'll move up…(moves so she can see) I can see it now.
D: I think my Brother was watering the strawberries so it's not about the water.
C: Watering strawberries?
Tilly: He's watering a strawberry?
The participants laugh
D: Coz we've got strawberries down there (pointing to the picture)
Tilly: (At the same time) A huge car shaped strawberry?
D: No
Tilly: I'm only kidding.
C, D and Tilly laugh
B: They're on the floor or something
A: Yeah they've got strawberry plants.
Tilly: Ahh, lucky you.
D: We have loads…anyway.
Tilly: Right so yeah, why did you take that one?
D: Because cars, when you're washing them, especially when you're trying to make them look really clean, you always take up loads of water.
The other participants and Tilly nod.
Pause.
C: Just don't wash it…my Dad washes his every single weekend.
A: My Dad never washes it.
B: My Mum never washes it.
C: It's like he cares more about the car…
D: I only wash it like once every year.
B: My Mum goes to the car wash…at Asda.
A: Mine doesn't, it's too much money and you can do it yourself for nothing.
Tilly: What wash the car?
A: Yeah.
Tilly: So are you into cars?
A: No but I like washing them.
D: Yeah that's fun.
C: I never help wash the car because my Dad doesn't let us, you might attack the car.
A: I like getting wet and mucky. You get wet and mucky so I like it.
C: Oh I don't like to get wet
A: Especially on a hot day. Me and my friend, we've got a business called Kiddy Carwash and we go round a couple of streets near us and we get about five pounds per person.
Tilly: Blimey.
C: What are we talking about again, cars?
Tilly: Sorry?

C: Nothing.
Tilly: Did you ask me something?
A: No she's talking to herself
C: (laughs) Yeah.
Pause
Tilly: Yeah so do you like your parent's cars or…?
A: No I hate my car.
C: My Dad, whenever he sees a nice car, even if he's driving, he knows sort of what car it is like it's a Boxer 360 or something. So I've got used to just knowing the cars.
A: I don't like our car because we started off with one car and then it was perfectly fine, really nice sports type car and then we went down in money and we had to get a cheaper one and I don't like it.
Tilly: Really? Why didn't you like it as much?
A: I don't know, I just liked our other car.
C: We're still paying our car off.
Tilly: Yeah they're really expensive.
B: Well my Mum, she's only been driving for two years and she's like not old enough to go and buy one of these new cars.
A: Why isn't she old enough? She's thirty.
B: Yeah I know how old she is OK.
C: My Dad has to change his car at least every three years.
B: She had this Golf one for like her first time and it was really small and we always got frustrated in it, but now we've got a bigger one, like a proper one and we've got loads more room so there's not so much….
Tilly: Like claustrophobia?
B: Yeah.
A: Claustrophobic.
Tilly: Yeah.
D: To me that car is really nice (pointing to the picture), so you know why? Because before I always had to be stuck in the back of a van.
Tilly: Oh right
D: And trust me the vans were either old or second hand, and they just stank the place out (Tilly laughs). And we were like (holds her throat as though she is choking, Tilly laughs again), especially when it was a one hour journey, that was just killer. Once I've been stuck in the car for fourteen hours.
C: Yeah right.
D: No seriously I was.
A: Yeah but now you have to be squashed up between your Brother and your Sister.
D: …and trust me it's not pleasant.
(A starts clapping her hands to get attention from D at this point. Tilly tells her to calm down. D ignores her. A looks a little embarrassed.
We were just stuck in the car and we kept falling asleep. We were so tired.
Tilly: So what do you mean by a van?
D: Just like a van.
Tilly: So no windows or anything?
D: There were windows at the front but not at the back.
C: That's really horrible.
B: You feel really trapped and (shudders with a displeased look on her face)
C: I like big Landrovers, they own the road.
Tilly: Sorry?

C: They own the road. If you're in a big car. And if you're in a sporty car you just go between everyone (wiggles to show them weaving in between and smiles with excitement at the thought of it)
A: (At the same time as the last three exchanges between C and Tilly)
But now you have to be squashed up between your Brother and your Sister? *** (D) ***?
D: What?
A: Does that mean you have to sit between your Brother and your Sister?
D: No only two people can go at the front.
A: In the back (pointing to the picture).
C: You can sit there or your luggage can go there.
D: Oh in the back of that. Yeah, I sit there usually and my Brother usually sits in the middle. My Mum sometimes sits at the back in the middle.
A: But who sits in the back? You can sit in the back.
D: No one my Dad usually uses it for storage.
Tilly: Like a boot kind of thing.
D: Yeah. And you can put down two seats which is really useful.
C Yeah I think that would be really useful.
B: Any other questions?
Everyone laughs
Tilly: Yeah! Are there any particular makes or styles of car that you would like for yourselves?
D: Oh yeah, ones that have got lots of room.
C: Landrover or sporty cars. Or a limousine, like a posh one
D: Yeah I want a limousine.
B: I would like a Landrover because they've got a lot of space.
A: I'd like a Landrover or any four by four, actually no I like Cougars because they're small .
Tilly: Yeah?
C: Who?
A: Sports cars. My Uncle's got one.
C: I like Ferraris.
D: I don't know why but I just love minis, especially the bright ones.
A: Four by fours and Yaris.
Tilly: A Yaris yeah.
A: A Ford Yaris. (Yaris are actually made by Toyota)
C: My Dad always goes to this Porche place because he likes the cars there, and I like having the mints off reception. (I wonder whether this experience, although unrelated to the cars themselves, will affect her opinion of such cars when she is older)
Everyone chuckles
Pause
Tilly: So can you think of reasons why you like particular cars?
B: Because it's got more room or it hasn't got more room.
Tilly: Yeah? So a space thing.
B: Yeah.
Tilly: Does that change the type of journey you'd have in it?
B: It does change the way you act.
A: Get your own space.
D: Or you get the picture shoved into your mind.
B: It's like you're in your bedroom really, like you've got a box bedroom.
Tilly: What do you mean by that? (Looking at D)
D: Like if you're reading you just get shoved in your mind.

Tilly: What adverts and stuff.
D: No like if you're reading a book.
The participants all laugh
C: She's always reading.
A: You're always reading.
D: But I'm a book worm though, what do you expect?
Tilly laughs
Tilly: She has to live up to your expectations.
A: Book nerd.
D: I'm not a nerd.
C: A book nerd.
Tilly: I'm a nerd and proud of it.
B, C and D laugh
A: You're not a nerd.
Tilly: I am. I'm still at University, I'm never going to leave education. Carry on (to D)
D: And there's this part where there's this girl and her Mum and she has this mini with bright yellow flowers painted on the top and I've always wanted that now. (INTERESTING STUFF!)
Tilly: Yeah.
C: Er that's like Italian job (she has an incredibly disgusted look on her face).
D: No it's really bright and…
Tilly: Do you not like minis?
(At this point A is yawning dramatically as if this is a very boring conversation)
C: No.
A: No!
C: …they're too small
A: Have you got one?
Tilly: No I haven't got a mini but I like them (I do have a sense that they are slightly picking on D and I feel like I want to protect her)
C: Good coz they're too small.
B: I like cars that look nice but I'm not fussed (gesturing towards A and C and there negative comments towards minis).
A: Minis are horrible. I like checkered minis. (I'm not convinced she knows what she likes!)
C: My Dad and Brother have always been into cars and…
She then becomes very distracted by a tiny fly on the table. The other participants also become a little hysterical. Tilly kills it and the discussion resumes.
And because my Dad always used to watch Top Gear, and you can see the cars that…
Tilly: Who watches Top Gear sorry?
C: My Dad and like I would as well because I liked little Richard.
A: Richard? Oh Richard's cute.
C: Yeah coz he's handsome.
Tilly: Oh do you watch it as well?
A: Yeah. I have to.
C: And you can see the cars that people like look up to. And like you don't want a horrible banger that's going to break down.
Everyone laughs
Tilly: Yeah do you think certain types of cars have an image?
All of the participants quickly agree
B: Yeah and act really. Like if you've got a real nice sports car it shows that you're quite posh really.

A: I only took pictures of nice cars.
C: If you've got a sports car you're like (does an impression of someone looking cool driving along in a sports car).
A: I took ones of nice cars…and crappy ones.
B: Never the normal cars.
A: Most were nice.
Tilly: Yep. OK, we'll move on to the next picture.
Tilly lays down the next picture taken by B
A: *** (B), boy in car.
Tilly: Yep, boy in car, that's right. So why did you take that one?
B: Well, coz like it's…he…
A: He can change moods really easily?
B: Yeah. Like I was saying. Coz this is our new car and there's more space in the back and he's now laughing.
A: Coz it's a new car?
B: Yeah and he likes all the room.
Tilly: That's quite interesting actually coz no one's mentioned that before, the mood in the car.
C: My Brother always falls asleep in the car so you don't see his mood.
C and D chuckle
B: I don't know why but he has been getting along so well in this car with a lot of people.
Tilly: Do you think it's because he like the image or…?
B: I think he feels like he's in his bedroom, and everyone's in his bedroom for him.
C: I'm only quite happy in the car when good music's on.
A: (At the same time - To A) Do you and your Brother share a room?
B: My Brothers share a room.
D: I hate it when my Dad puts this old music on.
C: (Interrupts) My Dad always has the James Blunt CD Back to Bedlam on and I love the songs on there
D: I haven't finished my sentence yet!
A: So, we like interrupting people.
Tilly: Sorry, go on.
D: I've forgotten what I was saying
Tilly: You don't like it when your Dad puts bad songs on?
D: Yeah coz there's this really common Turkish song right and it really gets on my
A and C start laughing and taking the mick out of Turkish music
…no seriously it really gets nerves and I'm like turn it off!
Tilly: Really?
B starts smiling at the camera again
A: I don't like it because I'm in the car and I say Dad can I have some chewing gum and he will say no even if he's got eighteen hundred packets in the car. And Mum will yeah let her have one and he'll go no!
Tilly: Yeah do you think that you'd like to be able to drive so that you can have control over the car and what music you can have and things like that?
C: Yeah.
A: Yeah.
D: Yeah.
B: Yeah coz sometimes I'm not in the mood for music
C: I'm always in the mood.
B: …because I sit in the back and my older Brother sits in the back and he listens to all MandM stuff, and I don't always want to listen to his stuff all the time, I want to listen to my music. And like he has control over it now. My Mum

doesn't care because she's concentrating on the road (Link to work by Barker). But like me and my other Brother are like stuck in the car and we've got like no control whatsoever of anything.

A: Was that your new car that you came to thing with yesterday or was that you Nan's car?

B: That was my Nan's car. (Laughs)

A: I was going to say, is that your car?!

A and B laugh

C: Yeah well my Dad's been driving for seventeen years so he knows everything about the road.

A: My Dad's been driving for forty three.

C: (Laughs) And he's always swearing, "stupid learner," he doesn't even know what lane he's supposed to be in!

B: That's what my Mum does.

A: My Dad's been driving for forty three years.

Tilly: Forty three years?

C: Your Dad's old though.

A: He's sixty. Actually he's fifty nine now. My Mum's been driving for thirty five years.

C: My Dad only learnt at seventeen.

A: That's when my Mum learnt. My Mum learnt to drive a motorcycle and now she won't let my Brother drive a motorcycle. He's eighteen. But she'll let him drive a car.

B: How old's your Mum?

A: Forty eight. Isn't your Granddad like forty?

B: No he's fifty two.

A: My Dad's older than your Granddad!

A pretends to cry, B claps her hands and laughs

(At the same time as the last four exchanges)

B: Motorbikes I like they're just fun to be on, your own fun thing you know what I mean.

Tilly: What you want to get a motorbike?

B: Yeah coz I went on my Gramp's motorbike and I had so much fun on it because it was my first time and I was like woe woe (moves from side to side) and I knew I could put myself in danger if I was going like that (leans to one side) or something, but that was so fun. I don't know why, but I knew I had to be careful.

A: Did you (Looking at Tilly) know that her Granddad is younger than my Dad.

Tilly: No.

A: By seven years.

C: Motorbikes, they're quite cool, but I always thought that if you ride a motorbike, you're supposed to be really tough. But motorbikes are quite dangerous because they just swerve in and out of the cars

Tilly: Yeah.

C: …and the car could just move like that. And you're not protected by the metal because you're not inside.

B: Motorbikes are my favourite.

A: I trust *** (male name) who lives opposite me, and I trust my Uncle ***, and I trust my Dad *** and my Uncle ***. (Three of them have got the same name) So yeah, I trust loads of men.

C: Are you sure you're not called ****?

Everyone chuckles

A: I know, no I don't trust my Dad ****, I trust my friend's Dad ****, I do trust my Uncle ****, and I don't trust my Uncle ***.
D: OK, make your mind up.
Tilly: Do you think your families have an influence on the type of cars you like? Are you influenced by them?
C: Yeah coz we have to have a sporty one because four people like, most convertibles, VW convertibles, they only have two seats unless they have two small ones, but they're really squashed. So we have to have
A: (Interrupts) But your Dad always buys sports cars but so he can fit four people in.
C: Yeah, so he always has to have one that has four seats.
The tape stops here so Tilly changes it. You can hear on the MP3 that the participants are playing up to the camera again. They also mention that they are glad to be getting out of lessons.
Tilly: Right OK, yeah so influence of your family. So for you (C) that affects what type of car you get as a family.
A: Yeah the kids don't get any choice.
C: Yeah we don't have any choice he just goes and gets it.
A: I chose this car because my Mum said if you choose and me and your Dad like it, then we'll get it, but if I choose and they don't like it then they'll get another one.
C: We always get, because my Dad likes BMWs,
A tries to interrupt, Tilly indicates for to wait and she pulls an angry face at C.
…so we always have to go to these BMW garages, really posh ones and I like playing on the computers there, so as long as I'm playing on the computer he can just choose the car.
Tilly: Oh right
A: Coz you get new cars nearly like every week.
C: The number plate is very important as well.
Tilly: Really?
C: He has to have, like my Uncle, he's got *** on his number plate, just that.
Tilly: Got what sorry?
C: ***
Tilly: Ah, personalised.
A: Haven't you got personalised plates?
C: Yeah we've got *** or ***
A: What does that mean?
B: You can't explain we're on film, hello?
Tilly: No don't worry, I'm the only person who'll see it.
A: You've got two cars?
C: No we've got two different number plates.
A: So if you get caught by the police you could just swap them!
C laughs
(Looking at Tilly) If her Dad gets caught by the police with one number plate she could just change it to the other one.
Pause
B: Because I live in *** I actually walked home once with like my family and I enjoyed myself so much because I got a proper talk with my Mum and stuff.
Tilly: Yeah?
B: And like
A: I never get to talk to my Mum.

B: I was in year five at the time and I was practicing my spellings and all that and um…I was doing that I didn't feel sick. I'd go along with my Mum, I'd talk to my family and all that and do what I'm doing.
Tilly: When you're walking?
B: Yeah, but when I'm in the car I get car sick, if I look down or up at the side.
Tilly: Yeah are there any other forms of transport that you can compare it to that you maybe prefer it to or…?
A: No not exactly, but in the mornings I always feel sick but I walk to school and I feel better. If I sit down in class I start to feel sick again. So I walk round and I feel alright again, sit down and I feel sick again and then…
Tilly: So walking's nice, you like it?
A: And mints (laughs)!
C: Walking actually, the pavements are quite dirty and like I don't like walking because I have to look where I'm going so I can't enjoy the walking.
A: Like this morning when I stepped in dog poo.
C: Yeah.
The participants laugh
A: I wasn't looking what I was doing and I was like elch!
C: Exactly.
A: Yuuuuk! And everyone was staying away from me.
B: When my Mum first learnt how to drive I felt happy that she had learnt to drive, but I felt very lousy because like she was driving and I didn't have my exercise in me. And like I've got…
A: Were you a model at that point?
B: No don't worry about that (waves A away, A and B laugh)
Tilly: Yeah so is exercise quite important to you?
C: (Shakes her head) no, no.
B: Yeah. Coz I like to run and stuff and I like to run races and like the *** which I won!
A: Yeah! We're getting a trophy, we're getting a trophy!
Tilly: (Turning to C and D) What about you do you worry about exercise?
C: Yeah because that's like…
A: (Interrupts) I don't need to worry
D: I only worry because I fight with my Brother.
B: No coz there's one person in this school that I want to be faster than. I don't know why.
C: ***
B: No, ***. I want to be faster than her. I don't know why. Because that's just me really.
Tilly: Yeah?
A: Mmmm (nods as if to say "too right"!)
Tilly: What about exercise for our health?
C: Yeah coz I want to look good!
A: I don't care
B: I'm quite healthy actually.
C: If you don't get any exercise you get all fat.
B: I had three apples at school today.
A: I've had four.
C: She only had two and a half, she put the other one in her chocolate yoghurt because she didn't like it.
A: Er! I don't like red apples.
C: I know, that was a red one.
A: I like green apples.

C: I like granny smiths.
Tilly: Do you think you get much information about exercise and fitness and stuff?
A: No.
C: No.
D: No.
A: We will next year though. We're meant to be doing it this year aren't we?
B: I think our school should do a lot more events really.
A: Yeah
C: But some people don't really like doing sport. It's not really fair on the people who don't like doing sport.
B: That's why I don't like the car no more coz I'm a sporty person but I'm not really a tom boy much.
C: I don't like walking with my family because they walk really slow and that frustrates me even more. I like walking quite fast.
D: Yeah my family's like that,
C: You're so slow
D: …I know, at school. But sometimes I can walk really fast and my parents are always saying slow down!
A: I can't walk with my Dad, he's too fast. He goes (impersonates walking quickly), and I'm like (impersonates walking slowly)
Tilly: So do your parents talk about doing exercise?
All of the participants say no at the same time
A: My Mum can't do exercise.
C: Coz my Dad's like, if you want to go anywhere, just say and I'll take you in the car.
A: Yeah.
B: If I'm ever on about exercise, my Mum goes to the gym to get exercise and stuff. We've got a chance to go outside but coz I live in ***, I've got no friends over there, I've got no one to go round with. And like my Brother, sometimes I go on a ride to the park with him, but now he's founds mates there, and I'm not a friend maker kind of person.
A: Is that why you're going to move to ***?
Pause
Tilly: So does your fitness and health and stuff, does it worry you?
A: No
B: Yeah.
C: Yeah.
Tilly: It does yeah?
A: Well it does coz I'm a, what's it called?...
C: When you become…
A: You always think something's wrong with you.
Tilly: A hypochondriac?
A: Yeah that's it. My Mum calls me one of them. Because I'd got bad bruises on my ankles and my wrists, and my Dad says "oh there's nothing wrong with you, bye bye, go to school", stuff like that and he makes me do stuff even though I can't because I'm in pain.
Tilly: Right.
B: Yeah but I worry a lot about doing exercise and keeping healthy because like my Dad, my real Dad, all his family is quite big, quite large (A laughs), I don't know why. But coz they drive lorries and stuff, they're always in the car, and I'm worried about that.
Tilly: Right OK yeah.
B: I'm worried that I'm just going to plob out! (laughs)

A: I don't trust my step Dad's family…at all. I don't trust them in the car.
B: My Mum does give me lots of healthy stuff though, and she does try.
A: And my Mum.
Tilly: So she does educate you a bit as well.
B: Yeah.
D: Yeah.
A: My Mum won't let me have chocolate or fizzy.
C: Fruit though is really expensive. Coz in Morrisons it's eight pounds for a little bag like that.
A: Yeah.
D: I don't like Morrisons
C: And like so chocolate is cheaper than fruit.
D: But that's not healthy.
C: Yeah but (shrugs her shoulders).
D: And I don't like eating too much of it. In fact I've started to lost weight not eating sweets.
B: I just like fruit and nut, I don't know why.
Tilly: (Looking at C and D) Do your parents encourage you to eat healthily?
C: I'm very fussy with my food (looks quite pleased with herself)
B: Yeah because actually, I got so slobbish. I was at home every weekend and I just hated my weekends. But then I decided to come to *** and play with *** (D) once, and now I'm out every weekend, like going shopping, going to the market and all that. So I'm always out. Getting much fitter.
Tilly: Yeah. (Looking at C and D) Are you the same with that or…? Or is your (Looking at C) situation more that you're worried about what you look like?
C: Yeah because me and my family, we always go to these places and you've got to walk everywhere to get everywhere and like I do exercise then as well.
A: I worry about what I look like when I go out. I have to look nice if I'm going for a walk somewhere.
C: Well go to a nice shop then.
D: I don't really worry, I just make sure I look OK and just go.
A: I don't, I have to look just perfect. Like in the morning my hair is just perfect.
C: (To D) You've cut your nails.
D: What?
C: No you haven't.
A: …when I'm walking to school.
C: Yeah when you're walking to school
A: …but then it goes mad (laughs).
B: I only ever walk when I'm dressed nicely because I feel so confident.
A: Yeah.
C: Yeah.
B: And I like going out in the street and showing off my new clothes!
A and C quickly go and get a drink at this point. The tapes are paused.
Tilly: So yeah, so you think you've got enough information to take care of your health and fitness and stuff.
C: Yeah.
A: Not always.
C: Yeah coz you just sort of pick it up when you're growing up.
B: As you grow up.
Tilly: So you know how to get exercise and stuff like that?
C: Yeah you just don't sit on the sofa, but you could jump on the sofa!
B: If there were more sport events like yesterday, I would…
C: Just out of interest, does anyone know what's happening in Eastenders today?

The participants all laugh

Tilly: Actually I could ask you about that. What type of television do you watch?
C: (Becomes very animated talking about this) Ooo, I watch loads of things. I watch…
A: Crap.
C: …soaps, cartoons, I watch comedy, films and I like comedy as well.
Tilly: OK, if I ask you individually. I'll start with you (looking at A)
C: Ask me first! (B puts her hand up in front of C's face. They both laugh)
A: Can I just say programs. It's a lot easier.
Tilly: Yeah, and how much you watch.
A: Malcolm in the Middle and The Simpsons, every single episode that I can see. Tracey Beaker every now and then. Um, a lot of comedy, horror films every day…about eight of them every day.
Tilly: How many hours do you think you watch a day?
A: Of telly?
Tilly: Yeah.
A: I'm not allowed to watch it in the morning…
C: Sort of depends what's on
A: On a school day I watch it from about seven o'clock till about ten o'clock.
Tilly: And the weekend?
A: At the weekend I only watch about two hours because I go out.
Tilly: Do you ever watch the news?
A: Yeah.
C: No. Sometimes I watch Newsround.
A: That's one of my daily week things, watch the news with Dad.
Tilly: Really? Does he make you watch it?
C: Yeah my parents do.
A: No, it's a new rule. I don't like the shouting box, because if I'm watching the telly and I'm shouting at the telly, I have to put ten p in the box.
Tilly: Do you ever listen to the radio?
A: I haven't got one.
C: I only listen to songs on the radio.
A: CD player, I like listening to my CD player.
D: Anything else that I get that isn't a telly will always break.
C: What so a book you read breaks?
D: No, but if you watch it or listen to it, it always breaks.
C: Oh (looks quite disgusted).
B: OK, moving on to me, I watch six and a half hours of TV a day.
Tilly: A day?
B: Yeah unless there is an event going on.
Tilly: Yeah what types of programs do you watch?
B: I like the Disney channel, the kids channel and like it's got, sometimes they've got movies on there. And they've always got nice clothes so I try to dress like them and I feel so confident.
A: Yeah, I do that.
Tilly: Yeah? How much do you watch? (Looking at C)
C: Well it depends what's on, because if not good things are on, I just do something else.
A: I just play on my PS2.
C: …but if I want to watch something I'll watch it for quite a long time. I watch really loads of things, things that I'm not interested in. Because…
C: I tend to watch a variety of stuff. Unless it's really rubbish. Cause I watch comedy, cartoons and soaps. I watch loads of things but not the boring things.

Tilly: Yeah. Do you watch the news?
B: I don't.
C: Sometimes, if my parents are watching it then I can't change the channel and that really. I just watch it then.
B: I go out the room. I don't want to watch it.
C: I can't because if the telly's on (Shrugs her shoulders as if to say "if it's there I have to watch it"! B and C laugh)
Tilly: (Looking at D) What about you?
D: Sometimes at the weekends I watch films that are on the telly. Comedy yeah, and cartoons. I don't really watch anything else. I don't even like soaps. Sometimes I watch the news. Like about three times a week, because my Mum always changes it to it.
Tilly: So you kind of just watch it because your parents do?
D: Yeah.
B: Um, I'm really worried about the fact that I watch six and half hours of telly a day, that's really bad, I'm just figured that out…that's really bad. But then I do eat a lot of fruit so I keep healthy. I don't eat a lot of junk food. Coz my Mum doesn't keep crisps in the house.
Tilly: Do you think you're affected by television?
C: No.
A: No.
Tilly: Do you watch adverts and stuff?
A: Yeah
D: Yeah.
C: Actually, I think I do because you see these people, say models that are really slim and you get all you're not like them. And you want to be like them.
B: And like you try an accent like them.
Tilly: (Responding to D shaking her head) You don't?
A: If I'm watching something on telly and I see someone…
D: I don't care.
C: She doesn't care watch she looks like anyway so…
D: I do! (smiles, but puts her hands on her hips)
A: Shut up! I'm trying to talk!
D: Oh, no one noticed!
Everyone laughs
B: (Pointing at A) She's like this, she gets a bit touchy sometimes.
A: (Laughs) If I'm watching the telly and see something, like on Art Attack, then I'll go and try and do it.
B: Yeah I do.
C: I'm not bothered.
A: Or if I'm watching something like a food programme or a cleaning programme, I'll go and do that.
B: Yeah.
A: But if it's food
C: I get hungry
A: …then I try and go and eat all those things.
D laughs
B: Yeah coz you know How Clean is Your House? And stuff
A: Yeah I go and clean as soon as I've seen it.
B: …that's what I do, I feel like my bedroom and my house is filthy because that show's spotless.
Tilly: Really?

B: Yeah, and like into my bedroom and scrub anything. I get the hoover at like nine o'clock (laughs)
C: My Mum would kill me if I started hoovering at nine o'clock.
B: And I hoover in the morning when I get up because I want it to be tidy. I'm not like this all the time.
C: I can't move our hoover! (laughs)
A: If my Mum picks everything off the floor and throws it on the bed, then I'll tidy it because I like my room tidy, but I don't like tidying it.
C: I just stuff everything in my wardrobe.
Everyone laughs
Tilly: What about car adverts for example?
A: Oh I hate them.
C: Have you seen the one with the wheel going there, and taking off that…?
B: No.
(B and C laugh)
A: Is it the one "wouldn't it be good, wouldn't it be great?" That one?
C: What?
A: With the cameras, (sings) "wouldn't it be good, wouldn't it be great?"
B: No. (laughs)
Tilly: So you can remember adverts?
B: Yeah.
C: Yeah.
A: Yeah, but I don't think ones like for the NSPCC should be on.
B: Why?
A: Because people like my Nan, if they watch them they don't like them, because they're showing like boys being really upset and stuff. And it's just not the type of thing you show on day time TV.
C: Yeah but it's to help like get the charity really.
A: Yeah but you shouldn't show it in front of children because…they're children. (laughs)
B: Yeah but they actually do that so that children will feel sorry for them and go any beg their Mum to go and give money or something.
A: Yeah exactly, but that isn't good.
C: I think it is because how else is that charity supposed to get money? Because it probably gets most of it's money from TV adverts.
Tilly: So you think some adverts can be good?
B: Yeah because it makes people notice.
Tilly: Do you think any kind of adverts make you want to buy stuff?
A: Yeah, loads of stuff (she smiles).
D: No.
C: The RSPCA one, I want to go and help them because they put dogs on there and they're all sad.
B: I don't really understand it because there's not enough information for me to understand, I don't have a clue about it.
Tilly: What about stuff that's particularly for you to buy? Like, I know I keep coming back to it, but car adverts.
A: No not car adverts, just food.
D: No.
Tilly: They don't affect you?
C: Cars no, because I'm not that age where they would (But she could see them affecting her in the future?).
A: Stuff like Argos adverts, I'm always like Mum look…oh they're gone. And when she comes back in I'm like that, that, that. What? That!

Tilly: What about the dancing car?
A: Yeah that's a good one.
C: Yeah I like the music (starts dancing)
D: Oh yeah (smiles)
A starts dancing
B: Yeah.
C: But I don't like the car because it's not sport, a Landrover or a limousine.
Tilly: So it's just the advert, not the car?
C: Yeah.
A: Yeah! (laughs, realising that's true)
Tilly: Yeah?
B: I think they should get rid of cars and have more exercise, and get rid of the TV.
Tilly: Yeah?
B: Well cut down TV anyway.
Pause
Tilly: Right, I think we better hurry up a bit actually.
A: It's mine next.
Tilly lays down the next picture, taken by A
C: What's that? Is that your Dad?
A: No, that's my Step Dad.
Tilly: Why did you take that one?
A: Because my Step Dad likes to walk, but he hates cars. He loves to walk…that's not my Dad (B laughs). I was taking it of someone doing the same as my Step Dad.
B: She doesn't know who is it!
B and C start giggling
Tilly: Yeah?
A: He likes to walk, but he doesn't like going in a car. And he's a builder so I took it of when they were doing the road.
Tilly: So that's what you were saying (looking at B), that you prefer to walk than go in the car.
A: Yeah I did this out of my bedroom.
B: I've complained about that road so much. What's the point, they haven't done anything to that road, what are they closing it for? Just don't go in that lane, you might fall down something (laughs).
A: They're blocking it because they're digging up iron and stuff. That's looks like my Dad, or my Step Dad (puts her hands on her head and scrunches up her face, I think she's unsure of who the picture is of)
D: Could I just have a look, I can't see it properly.
Tilly passes D the picture.
A: I live with my…
B: Don't tell that stuff to the camera!
Tilly: No don't worry, I'm the only person who'll see them.
A: I live with my Step Dad and my Dad is ***.
Tilly: Have we got any other comments about that one?
The participants all say no.
Tilly lays down the next picture, taken by C
B: What's that about *** (C)?
A: That's *** (C)'s car.
C: I wanted one of inside the car, like what it can do, and I like all the gadgets.
Tilly: Sorry?
C: What it can do and all the gadgets.
Tilly: That's why you took it?

C: That's not my house by the way.
Tilly: But that's your car?
C: It's our car but our house is just here (points beyond the picture).
A: Is your house this side…oh yeah coz I called for you and that car was outside.
Tilly: OK.
B: It's nothing like ours
A: It's eye catching.
C looks quite pleased with this comment
Tilly: What that car?
A: Yeah.
D: Yeah, I like black windows.
A: Say we were playing up there, the first thing you'd look at would be the car.
C: It's not black.
C gets quite defensive.
D: It looks black from here.
Tilly: OK.
A: That's all I can think of for that.
Tilly starts to get the next picture
C: That was quicker than theirs.
Tilly: Yeah sorry I know but I need to hurry up a little bit. I've got one more from these cameras
Tilly lays down the next picture, taken by D
B: *** (D), is that yours?
D: Yeah.
C: I wanted to take a close up like that but I didn't know how.
Tilly: Yeah, that's why I wanted to look at this picture as well, because you said that you wanted to take a picture of an exhaust.
B: That looks like a toilet roll pipe thing.
C: Yeah it does.
D: Yeah it was like when I was looking at it, what the hell is that!
Tilly: Yeah…so why did you take it?
C: We have two on our cars.
B: It's about pollution isn't it.
D: Yeah pollution. If you saw the thing on Newsround about the hydrogen thing, it just comes out as water rather than pollution.
B: Yeah coz doesn't the pollution, don't cars affect something around the Earth? Hang on, what's climate change again?
Tilly: Yeah.
C: The ozone layer
A: The ozone layer, it's about that thin now (puts her hands about 3 cm apart)
At this point, D gets up and kneels on her chair.
Tilly: Yeah, that's part of what I wanted to ask you about actually. Um…
A: (To D) Sit down.
Tilly: Yeah, climate change…
B gestures to D to sit down, Tilly pauses. The participants start laughing. D gets down.
Not too much longer!
D: (laughing) It hurts.
Tilly: Yeah climate change. What do you know about climate change, and greenhouse gases?
A: It's happening very quickly, it's happening very quickly.
B: What's climate change?
C: (Points to B and laughs) She doesn't even know what climate change is!

Tilly: No that's fine, that's part of what I'm finding out, if you know what it is or not.
C: I know.
A: The polar ice caps are melting really quick.
B: Yeah that's coz of cars isn't it?
Tilly: Yeah.
A: And the ozone layer used to be about that thick (puts her hands about a metre apart), and now it's about that thick (puts her hands about ten centimetres apart).
B: Yeah like cars are killing like a lot of things.
C: I thought it's that the Earth is going to burn up in like a thousand years because of the ozone layer, but like I'm not going to be around in a thousand years so I don't really care.
Tilly: Yeah?
C: Yeah so I know about it but I don't really care.
D: I do.
A: I don't like it in films, if they base a film on something they think is going to happen in the future, I don't like it because it scares me, even though I'm not going to be in it.
Tilly: Yeah?
A: Because I know I might be.
B: Yeah it was on the news once that Avonmouth's going to be flooded.
Tilly nods
C: Yeah, the Thames should be flooded by now.
A: (Puts her hands on her face and looks panicked) That's what my Nan says.
B: I got told it was in ten years, that everything's going to be flooded because of cars.
C: I've got to learn to swim (smiles).
A: Avonmouth?
B: Yeah, I got told is was going to be flooded because of cars…or something.
C: No it's because of the sea. The fish are dying because there's too much sea.
Tilly: (Looking at D) What do you know about it?
D: Um…
B: (In response to C's comment) Yeah because *** (D) eats it all!
A, B and C laugh. It seems a little cruel.
D puts her hands on her hips
Tilly: (Not hearing the comment) Because you took the picture…
A: She ate all the fish
D: I have not.
Tilly: (Ignoring the silly comment) What do you now about climate change?
C: Don't ask her because she'll go on and on and on.
Tilly: No I want to know what she knows…
A: Don't go on, we'll give you two minutes
D gets annoyed, the other participants think it's funny.
Tilly: No leave her alone, everyone needs to speak.
B: Yeah take your time.
D then struggles to start talking. A starts laughing.
Tilly: Well you were saying about pollution.
Throughout D's next comment A is flapping about, trying to distract B, who tries to ignore her.
D: Oh yeah, there'll be more storms. It's going to be hotter and sometimes colder, like too cold and too hot. Loads more storms, loads more hurricanes, storms and things like that. It's going to be hell, practically.

C: But don't only really hot countries have hurricanes? Like England's never had one?
D: I know but…
B: I think that will start happening because of all the pollution.
C: America has hurricane Richard and all that.
A: England's meant to be the highest population for hurricanes in the world, but it's not.
C: No it isn't
A: Yeah it is, it's meant to be.
C: It isn't, it hasn't had one.
A: It is.
B: (Looking at C) Are you sure?
C: Yeah.
D: (looking at A) Aren't you getting it mixed up with America?
C: Yeah.
A: No.
B: Yeah but I think if they're going to start coming over here, this is going to affect it.
C: I don't think it's that hot here compared to America.
Pause
Tilly: So where do you get this information from?
D: TV.
B: TV, you get told it.
C: Just stuff you hear.
A: My Dad because his Dad used to be a Danish sea captain and he knew about it.
Tilly: Oh right.
A: So I've got famous people in the family.
Tilly: So you got it from TV?
D: Documentaries.
A: Dad.
B: I've just been told.
C: Not documentaries, just TV, it's part of life.
B: My Mum got told, and then she told me, and it carries on. Now I've told you guys and it goes on and on.
C: Oh and the internet as well.
Tilly: Yeah? Is it something you get taught at school?
All of the participants say no.
B: No they don't' teach us this stuff.
Tilly: What about your families?
A: My Dad, because his Dad was a captain at sea.
B: My Mum tells me stuff.
C: My Dad would just go for a drive and pollute the Earth even more so…(laughs) So he doesn't care either.
D: My Mum doesn't really care either.
A: Every single person in my family who is male has been something to do with the sea, a sea captain.
Tilly: Yeah.
A: Because my Granddad drowned, in the water.
B: Ahhh (puts her arm round A).
A: It doesn't scare me, don't worry.
Tilly: So does it worry you? Does climate change and those issues worry you?
A: Yeah.

B nods, C shakes her head. D doesn't respond.

C: Only for polar bears who've got no where to live.
B: I don't really get worried because by the time all of this has happened we'll be
C: Dead.
B: …old and dead.
A: But our families will still be here.
C: So, I don't care about them, they can look after themselves (laughs but seems fairly serious).
Tilly: (To D) What about you? Are you worried about it?
A: (in response to C's comment) Right, we'll just leave it all to you (meaning future generations. She says this sarcastically)
Tilly: (To D) What about you?

Again A mumbles something to distract the others and pull attention away from D. D stumbles a little. In general, D copes well with the others picking on her. She seems quite strong, which might be why they persist.

D: In a way yes. In a way I'm worried yeah, but I just look at the future like it is now. So sometimes I care but most of the time I don't.
Tilly: Yeah. Do you think you can do anything about it?
A: No.
B: No.
C: No.
D: No.
A: Well yeah, don't have as many cars.
D: But if I want to drive, I don't want to not be able to coz I have to not do it.
B: Coz one person can't really change anything unless it goes on the news, because they'll be loads of people who don't agree.
C: Coz there's zillions of cars on the world
A: Trillions
C: …and no one's going to all, they're not all going to give up they're cars.
B: Maybe there should be like something on TV.
A: One car per family.
B: …something like a thing saying…don't like…like all the advert things saying "more walking, no driving!".
D: No but that probably wouldn't work.
C: Yeah coz most people don't even take account of adverts, they're just adverts to like, they're just to make a cup of coffee while the next program starts.
D: Yeah my Mum she goes "you watch the adverts? You kids are crazy!"
Tilly: Yeah, most people don't watch them?
C: Have you watched the frog one?
A: Yeah, the crazy frog (she then sings "we are the champions" in a crazy frog voice, the participants all laugh)
Tilly: So do you think you have power as individuals to change things like…
A: Yeah.
D: Yeah.
C: No.
B: No, not unless we're president.
C: Yeah, the president don't even do anything. I don't think I'll elect him this year. (B, C and D laugh)
A: The power is being the youngest of the family, because I get told off.
Tilly: Sorry, you all spoke at once there I missed that. Was that yes or no to whether you have any power as individuals?

The participants all say no.

B: But I would like to change it.

A: I used, I used to think I was a witch.
Tilly: (Laughs and looks at B) Did you say you would like to change it?
B: Yeah but I know I wouldn't be able to, just me. If I really tried I know that I would just be wasting my life trying to do one thing I knew I couldn't change.
Tilly: Yeah?
A: Yeah, don't waste your life trying to do one thing.
B: Coz someone invented these stupid cars
A: Yeah and someone's got to un-invent them.
Tilly: Yeah, what do you understand about the links between cars and climate change?
C: Car pollution leads to climate change. But also factories do that because like.
D: Yeah it's mainly factories
C: But that's just part of living.
A: Yeah.
D: I hate factories, I've never liked them.
C: I like factories, because they've got the tall thing that's cool.
Tilly: What about as young people? Do you think you're listened to?
A: No, I never get listened to.
B: No.
B and D shake their heads
A: I've been brought up that I never get listened to in my family. I get ignored.
B: My Mum just pretends to listen to you (laughs)
C: The little ones never get listened to.
A: And if I try to speak when my Nan's round, I try to speak and I just get ignored and interrupted and I don't like it, so I just don't talk at home at all.
B: When you're little you don't get no notice taken of you. And then when you're older you get put in a home, because they think you're bonkers! (everyone chuckles) You're going crazy and stuff.
A: I want to be middle aged.
D: I get loads of attention.
C: That's because you're the one that does everything, the small ones I think they never get the attention.
D: No, my Brother…
B: (Talks over the top) No but they don't really care about this stuff and even we know that now. Coz like you gradually learn.
A: I'm the youngest in my family.
C: Ha Ha
A looks at C menacingly, C laughs.
A: And me and my Brother have both got Dad and a Step Dad so it's not fair because I get ignored when I'm with certain people and my Brother doesn't always get ignored, because he's older than me. Like I'm trying to talk to my my Mum and my Nan's there, just sitting there, I'm there, my Mum's here (pointing in different directions). I'm talking to my Mum and all of a sudden, "na, na, na, na" my Nan interrupts me.
B: My Mum, she's got these mates and whenever I go round there, whenever I go round to their house and stuff, I get completely ignored, but Brother – he gets so much attention.
C: Little one or big one?
B: ***, and he gets…people say hello to him but they never say hello to me. And I think it's because he gets so frustrated with all these objects by moving. Like he's in the car and he's always getting red letters home and stuff.
C: It's cause he's the little one as well.
B: Yeah but like…

A: He gets called muffin head.
B: …he gets so frustrated and he can't sit still really. He's got to me moving, and every one takes notice out of him. And I'm completely left out because I'm sensible.
D: Yeah, that's probably why people misbehave.
A: I can sit still
Tilly: (Looking at D) You don't find the same thing?
D: No.
B: I feel so left out.
A: I think for girls, if you're in a family and there's two boys and only one girl, then the girl gets left out. But if there's two girls and one boy, the boy doesn't get left out.
B: Actually that is true.
D: That is true because I've got a Sister and a Brother
C: (Interrupts) Boys have got big heads.
D: Who?
B: Yeah definitely, my Brother's are like that (indicates having a huge head, C then does the same)
A: Yeah boys have got big heads.
C: Yeah coz if you're in the middle you get squished either side and no one talks to you. (laughs)
B: Yeah coz I've got two Brothers
A: I've got eight.
D: Yeah I feel sorry for my Sister, coz I'm the oldest I get loads of attention and my Brother who's the youngest, he always gets loads of attention, but she's like,
C: I don't understand why the oldest gets lots of attention.
D: … if I butt in when she's speaking, I still get in trouble, and my Mum yells at me a lot about doing that.
C: My Mum always yells at me because I'm the oldest.
A: Anyway, I think if there's two girls and one boy in the family the boy doesn't get left out, but if there's two boys and one girl, the girl gets left out. I don't know what it is about females, but they always get left out.
B It's like they don't have no control over nothing. People just think "oh tough!".
D: Yeah but you think two girls and one boy is bad, you think about my Mum, she had three Brothers and she was the only girl.
C: So?
B: So? I've got two Brothers and it's the same thing.
D: Yeah but she had three Brothers.
B: Yeah well it's only one extra.
A: I've got four half Brothers and one…no, I haven't got any real Brothers! (The participants all laugh) (I thought she said she had eight).
Tilly: Sorry, I need to come back to buses
C starts moaning about her nail. Everyone laughs, then turns back to the discussion.
OK, I haven't actually got a picture of them because you didn't take any, but about buses
C: I think they have no safety.
Tilly: Yeah, what do you think of them?
C: …and the passengers, I mean the conductors or whatever,
A: Yeah, they treat you badly
C: …the bus drivers, he's always like that (pulls the corners of her mouth down into an unhappy face) "yeah, can I have you money please?"
Everyone laughs

And I can't even hear what he's saying, I have to say "What?!" (laughs)
B: People on buses don't give them any respect…really.
Tilly: Yeah?
A: If you're little and sitting somewhere
B: They put chewing gum on the buses and everything. They don't have any respect for the buses.
Tilly: Younger people?
A: No older people.
B: Well,
C: Teenagers
B: …teenagers really.
A: Like if I was sat down in one space and it was the only space left downstairs and a woman didn't want to go upstairs, this happened to me, the woman just came over to me and went "go away, I'm sitting here, I've got a responsibility to be sitting here" and I said "no, you're not my Mum, you can't tell me what to do, I'm sitting here", and she just pushes me out the way and sits down. I told my Mum and my told the whoever it was that she didn't have the right, and she didn't listen, she just went to the police because she said to was disrespecting my elders.
D: Was she an elderly woman?
A: No. (she points at Tilly) Like her. The same age as you.
D: Then she's just plain rude. That's plain rude.
C: If you're elderly I still don't see what's the point.
D: If they're elderly then that's OK.
A: No it's not.
B: Not it isn't.
C: Just coz they're elderly…
D: If they push you out then that's still not right, but if they're elderly you should give up your seat, because they're old.
C: I still don't think it's OK.
A: People of the age of about thirty to forty are horrible to children, if they don't know who they are.
Tilly: So do you think about that, sort of getting disrespect from older people…
B: Yeah
C: Yeah.
Tilly: Does it put you off wanting to use the bus?
B tries to say something here but gets cut off by C
C: Like people in shops always look at you because you're little and you're not with an adult.
A: If you're are age and a boy, or a girl, you go into somewhere like Spa, and they're pretty young, like twentyish to like, early twentyish to like early thirtyish and like the security guards they're pretty young and you'll walk in and they follow you round the shop and make sure you pay the right amount. And when you go out, they like watch what you're doing.
B: We're not talking about transport (smiles).
Tilly: Yeah (to A).
C: (To A) Not in Spa they don't
A: Yes they do.
C: Does the body guard block the whole door? Because they're so fat?
Tilly: But that kind of reaction to you…
A: I don't like it.
Tilly: Yeah, does it put you of wanting to use the bus?
A: Yeah.

C: Yeah.
Tilly: But do you use it anyway?
C: No.
B: Personally, if there's one seat left and there's an old lady next to me, I would go upstairs and let her sit there because that is respectful.
A: Or I'd stand up.
B: Yeah.
C: I wouldn't. I don't sit near old people really because their hair or their fluff off they're hair gets on me (laughs)
B: Or they smell sometimes (C laughs). And they sit down next to you and you're like ech!
C: But I wouldn't let anyone push me round.
A: I don't like anyone pushing me around. I've got anger problems. If someone does like something tiny to me, I'm like that (punches the table), so I don't like going on buses because I get like that.
B: I like trains because
C: I've never been on a train because it's too slow
B: Whenever I'm on a train I get along with my Brothers…because like you can get up and walk around on them. And my Mum just sits there.
C: On trains do you get food?
A: Yeah you do get food but you have to pay for it.
C: Oh, I don't want to go on a train then.
B: Yeah but you see all these nice things in the car. But then if you're walking you get to see them slowly. Like I go past the airport, but when you walk past it you can see all these giant aeroplanes, and it looks amazing. It's amazing for use kids to see really.
A attempts to say something with her mouth full of water, by making gestures with her arms. At the same time, C is talking.
C: Limousines, they're like a really special thing for like if you're posh or you have lots of money. That's why I want to have one of them.
Tilly: Yeah? Is that why you like them?
C: Yeah.
D: I'd like a driver so that they'd open the door and you could just step out.
B: Yeah.
D: That would be cool.
Tilly: What was that sorry.
D: Oh doesn't matter, a stupid thing.
A has still got her mouth full of water and waving her arms about.
Tilly: Do you want to swallow that so I can understand what you are saying?
B tries to interpret. A laughs
A: No, I like looking at planes.
C: Oh I though you said the sea.
A: I like looking at still planes and flying planes.
Tilly: Oh I see, right.
C: Helicopters, I find helicopters too noisy.
B: I know. But they're good for catching like, coz they've got a spotlight haven't they?
Pause
Tilly: OK, quick question. If you could choose any form of transport to get to school, or whatever, what would be your preferred mode?
A: Cycling
B: Cycling, or riding.
D: Cycling.

C: Oh by the way, this is another form of transport, taxis, you know black taxis
B: Oh I don't like them.
C: …I like them as well.
Tilly: So your favourite one is that you like being chauffeured kind of thing?
C: Yeah, being driven in posh things.
A: Me ***, and *** (B and D) like cycling.
Tilly: Yeah , why do you like cycling?
C pulls a disgusted face at the idea.
A: It's safe.
D: Well it's safe and you know when you're walking you get a bit tired?
Tilly: Yeah
D: …but when you're cycling you go further but you've used the same energy.
C: But you have to wear all that disgusting gear, the helmet and elbow pads, no way!
D: I just wear a really nice helmet.
B: You get fit, you can show off your nice bike.
A: You can go really fast.
B: You can go fast, or slow, whatever you feel like going.
C: You have to have a helmet to go on the road
D: Don't go on the road, go on the pavement.
C: You could still crash though.
Tilly: So the way you normally travel…
A: I walk.
Tilly: …is that what you'd choose?
B: No, I don't like it.
C: My Dad always says that if you want to do it, get the most expensive thing, so I don't like cycling because I don't.
A: Why don't you like it?
C: Because you don't get chauffeured around.
A: Chauffeured?
C: Yeah.
Tilly: So yeah, how do you normally get to school?
A: Walk.
C: Walk
D nods
B: I go by car.
C: It only takes me five minutes.
Tilly: (Looking at B) But you'd prefer to cycle?
B: I have go by car because I live too far.
C: We only have one car in the family, and my Dad takes it to work and our house is only five minutes so…
B: I would walk, but because I live so far, I'm not exactly going to leave at seven o'clock to walk.
A: Us three (pointing to herself, C and D) walk.
C: Yep, lazy!
B: Yeah but you don't live so far.
C: Lazy!
B: You don't live so far!
C: Lazy!
B: Yeah but I live like an hour away.

Due to time, the discussion ends here. Once I tell them that the discussion is over, they all run over to the camera and start waving and dancing.