ARE EUROPEAN CLIMATE CHANGE AWARENESS CAMPAIGNS TARGETING CORRECTLY TO ENCOURAGE SUSTAINABLE TRAVEL?

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1. INTRODUCTION

The transport sector is a key player in economic growth; nevertheless it has detrimental effects on the environment and human health; it is responsible for a quarter of global greenhouse gas (GHG) emissions and is the only major sector with growing emissions (Woodcote *et al.*, 2007). Understanding of the role of transport in exacerbating climate change exists at the expert level but this is questionable at the public level; and while existing targets cover all aspects of reductions of GHG emissions from the transport sector, there is a gap between expectations and deliverance of these policies (Stead & Banister, 2001). Emissions thresholds have been set but few have actually been achieved, possibly because anticipated levels of public awareness (and consequential behavioural responses) have been misunderstood or overrated (Nicholson-Cole, 2005). Although awareness of climate change and the exacerbating role of transport in general are high, evidence suggests that the public are unaware of the full impacts of their personal travel and consequently are not inclined to change this (Richardson *et al.*, 2007).

This paper therefore examines the role of climate change information in achieving significant reductions in unsustainable travel behaviour. By drawing on findings from a wide-scale survey of travellers in Hampshire, UK, the issues underlying the continued seemingly unsustainable travel behaviour of EU citizens are explored alongside the likely success of the EU's 'You Control Climate change' campaign in redressing this situation.

2. TOWARDS SUSTAINABLE TRAVEL

2.1. The growing threat of climate change

Climate change is an issue with impacts of an international and long lasting nature. Global temperatures could increase by between 1.1°C and 6.4°C, precipitation patterns are expected to become more intense and sea levels could rise by 0.18 to 0.59m (IPCC, 2007a). In the United Kingdom alone, temperatures could increase by 2°C to 3.5°C by the 2080s and increase annually by 0.1°C to 0.5°C. UK winter precipitation will rise by 10-35% whereas summer precipitation will drop by 35-50% (UKCIP, 2002).

Climate change is both international in terms of its causes and for its solutions. 2°C above pre-industrial levels has become the temperature threshold below which climate change is deemed manageable and acceptable (EC, 2007). The European Commission has advised a 30% reduction (compared to 1990 levels) in global GHG emissions by developed countries by 2020 in order to achieve this, and by 2050 this reduction must be maintained at 50% below 1990 levels equating to a 60-80% reduction for developed countries over the same period (EC, 2007).

2.2. The role of transport

The transport sector contributes to a quarter of the world's anthropogenic CO_2 emissions which have been increasing since 1990 (IPCC, 2007b) and emissions from road transport contribute to the largest proportion of this marked increase (DfT, 2009a) in emissions within the EU, USA, China and worldwide (EEA, 2008). Although all CO_2 emissions in the EU have declined by 7.9% since 1990, globally they are still rising; energy demand from the EU transport sector has increased by 26% highlighting a lack of adequate policies to maintain a reduction in emissions in line with those from other sectors (EEA, 2008). With the predicted explosion in population growth anticipated by the year 2050 (UN, 2009), emissions are expected to grow, further exacerbating climate change.

Although extensive research exists on the scientific mechanisms of climate change, the role of transport and policy requirements (IPCC, 2007a, b), this is primarily conducted and accessed by scientists, economists and politicians. The degree of detail and the multi-faceted aspects of climate change and the role of transport required for experts alone to fully assimilate and understand the extent of the issue are vast. Unless sought directly, the general public cannot be expected to have a detailed level of understanding of this; therefore full comprehension of the issue is very low at the public level: individuals have heard of climate change, a number are aware of its mechanisms yet a large proportion do not fully comprehend of the extensive system that is climate change and their role (Anable *et al*., 2006). This difference in levels of knowledge is reflected by low engagement, trust and concern based on the accuracy of knowledge acquired (Lorenzoni *et al*., 2007).

2.3. Bridging the gap between expectations and deliverance: the role of behaviour change

With increasing car ownership, falling car occupancy, increased average trip length, and a shift away from public transport use, vehicle fleets are growing worldwide and achievements in energy efficiency have been smaller than expected (DfT, 2009b). However individuals have stated that as much as 40% of their car journeys could be *reduced* and as many as 80% of car journeys could be *replaced* simply by maximising the use of alternative means of transport (Stradling, 2003). With high car production (Society of Motor Manufacturers and

Traders, 2009) and lenient manufacturer restrictions on new vehicle emissions (European Federation for Transport and Environment, 2007), the need for reduced private travel is growing. The sustainability of transport therefore relies on increasing sustainable choices, the use of environmentally-friendly modes and on reducing overall transport demand.

Overarching government policies help to incorporate sustainable transport growth and reduce per capita emissions by implementing economic measures such as taxes and charges which must visibly and realistically reflect the environmental costs of travelling. These impacts, as with technological innovations however can be uncertain (Greene and Wegener, 1997), they must fulfil specific requirements to ensure their success (Van Der Bergh *et al*., 2006), are slow in implementation and their impacts are often imperceptible for a certain period following their application (Banister *et al*., 2007). Immediate results however are often a pre-requisite for continued funding, research, improvements and public acceptance, and a lack of observable benefits can often lead to a drop in support.

Schemes focussed around attitudinal and behavioural changes addressing travel choices and encouraging a shift towards sustainable practices have demonstrated more immediate and long-lasting results specifically in terms of behavioural changes (Sloman *et al*., 2010). Consequently, GHG emissions reductions result in public support, sustained changes and further opportunities for parallel schemes (Cairns *et al*., 2008), suggesting approaches targeted at altering specific behaviours, whilst simultaneously using existing political, technological and economic measures will increase the likelihood of sustaining long-lasting emissions reductions (EEA, 2010). Single initiatives, whether fiscal, technological or legislative may offset CO_2 emissions by 1 or 2% however, combining these as well as using behavioural initiatives to reduce demand could result in savings of over 10% (IEA, 2001).

2.4 The 'You Control Climate Change' (YCCC) campaign

It is within this context of rising emissions and increasing recognition of the need for attitudinal and behavioural change that the EU's 'You Control Climate Change' (YCCC) awareness campaign launched in May 2006. It focuses on individual actions centred on four key behaviour changes: reducing energy consumption, switching off appliances when not in use, increasing recycling and walking, the campaign is an example of a public-based engagement strategy.

The first criticism of the scheme is its lack of efficiency in that it targets primarily individuals who have access to the internet (to search for environmentally friendly tips) whereas only 40% of Europeans have access to the internet at home (Euro Barometer, 2006). It also targets only those who have already made a small effort to behave sustainably (Lange-Hegermann *et al*., 2007) in the hope that these would influence others to do the same. The campaign argues that 20% of the EU's GHG emissions comes from household activities yet fails to

acknowledge what the remaining 80% are a result of or what is being done to tackle this (Moisander, 2007), it does however present a series of simple and clear tips on how to reduce personal emissions while addressing issues relating to personal gain in the form of information on financial savings.

YCCC targets travel behaviour through its tag 'walk' (although alternatives to walking are also addressed through the website) which fails to target individuals who cannot or prefer not to walk as an alternative to their current travel patterns. YCCC offers non-personalised information on ways to change travel behaviour and gives no indication of the achievements in emissions reductions; this places it a few steps behind other campaigns and personalised marketing tools which have achieved significant modal shifts (Sloman *et al.*, 2010).

Despite these concerns however about its precise implementation, the scale of the YCCC campaign does suggest the potential to influence sustainable travel behaviour as long as the messages and information that it provides correctly align with the underlying reasons for continued unsustainable travel behaviour.

3. ATTITUDES AND BARRIERS TO SUSTAINABLE TRAVEL

To understand these underlying reasons a combined quantitative/qualitative survey was carried out with households selected at random from the electoral wards in the county of Hampshire, UK, taking place in multiple phases between May 2007 and September 2009. Over 900 responses were obtained to the baseline phase, with approximately 200 households maintaining their participation throughout the survey period.

3.1 Awareness and concern for climate change

When asked about the contribution of human activities to climate change, results show (Figure 1) that the public is divided into three Awareness groups: 84.3% believe in human-induced climate change ('Human' group), 8.2% are unsure of human contributions ('Unsure' group), and 7.5% believe climate change is not anthropogenic ('Non-Human' group).

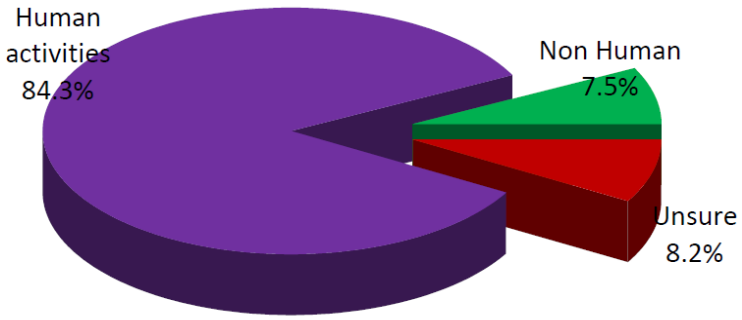

Figure 1 - Public awareness of climate change.

This high level of awareness found reflects that of previous research (Euro Barometer, 2009; Norton and Leaman, 2004) but the nature of perceptions of what influences climate change goes beyond the findings of Poortinga *et al*. (2006) by identifying an additional awareness group centred on individuals uncertain of the causes of climate change.

Among all demographic variables Chi-Squared Test and Logistic Regressions highlighted a trend with age only (p=0.029) with three groups identified: young (less than 25 years old), middle aged (25-54 years old) and older (over 55 years old) people (Figure 2). 89.1% of middle aged respondents were found to belong to the 'Humans' group compared to 79.5% of older and 80.6% of younger respondents indicating that people aged less than 25 and over 55 years old are *less* likely to believe in anthropogenic climate change. This may be due to a lack of exposure to information sources (an issue which the use of internet based information for the YCCC will better address for younger than older citizens), lower level of concern to issues perceived as unimportant, or unfamiliarity with contemporary issues at earlier and later stages in life.

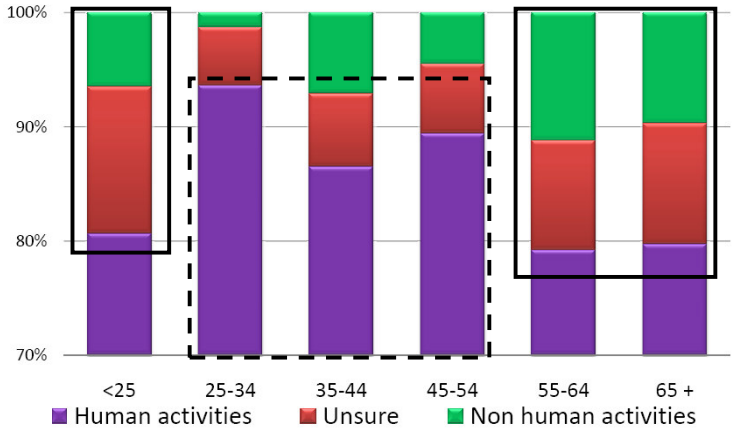

Figure 2 - Awareness of the causes of climate change according to Age group.

While results showed that concern for climate change increases with growing awareness, the level of concern was found to be linked to how much a person knows about the causes of climate change (Howarth *et al*., 2010) and varies in terms of it's perceived impacts (i.e. on individuals, animals, etc). Confusion regarding climate change is often the result of poor understanding of the causes, impacts or science itself (King *et al.,* 2009) which often prompts a lack of personal connection to climate change inhibiting individuals from relating to climate change on a personal level, and as a result a sense of distancing and diminished responsibility emerges (Lorenzoni and Pidgeon 2006). Concern and urgency towards climate change is then further influenced by the certainty and reliability of the knowledge acquired by each individual as well as by personal

experience, values and contextual factors (Lorenzoni *et al.*, 2007); with other issues (e.g. the current economic situation) perceived as more pressing tending to take precedence over climate change (Poortinga & Pidgeon, 2003).

3.2 Attitudinal and behavioural groups

The second level of analysis of the survey respondents (Howarth *et al.*, 2010) identified three distinct clusters defined both by differing attitudes to sustainable travel behaviour and by differing actual travel behaviour (Figure 3).

Sustainable Aspirers consists of individuals solely belonging to the 'Humans' group, 97.1% are concerned about climate change and the majority (65.2%) are aged 25-54. They express a strong desire to change their travel behaviour and believe doing this will have a positive impact on the environment. In spite of this, factors having a direct impact on the traveller (such as travel time, cost and convenience) take precedence over the environmental impact of a mode however the use of incentives and transparency regarding peer behaviour are considered to be able to significantly influence travel behaviour. In light of this, habitual travel emerges as a strong barrier to behaviour change and overshadows environmental consciousness and sustainable travel behavioural intentions. This group can then be further divided into **Sustainably Aspiring Motorised Travellers** who despite their aspirations tend to use a car as a main mode of travel and **Sustainably Aspiring Active Travellers** who principally tend to use cycles or walking.

Environmental Apathetics groups together individuals 80.2% of which are in the 'Humans' group, 7.3% 'Unsure' and 12.5% 'Non-Human', 53.6% are aged 25-54 and 69.1% express concern for the climate change. They are characterised by strong environmental apathy and a lack of engagement in sustainable travel behaviour. Half acknowledge the impact of their travel behaviour on the environment, but do not see the point in changing their travel behaviour regardless of their level of concern for climate change although they state they know moderately well how to change their travel behaviour. This perceived uselessness of engaging in more sustainable travel behaviour is reflected by the low consideration of the environmental impacts of transport modes. The environmental impact of each travel mode is barely considered and this is emphasised strongly across individuals who express low concern for climate change. It is unsurprising that this group almost always have the car as their main mode of travel, leading to this group being **Environmentally Apathetic Motorised Travellers**.

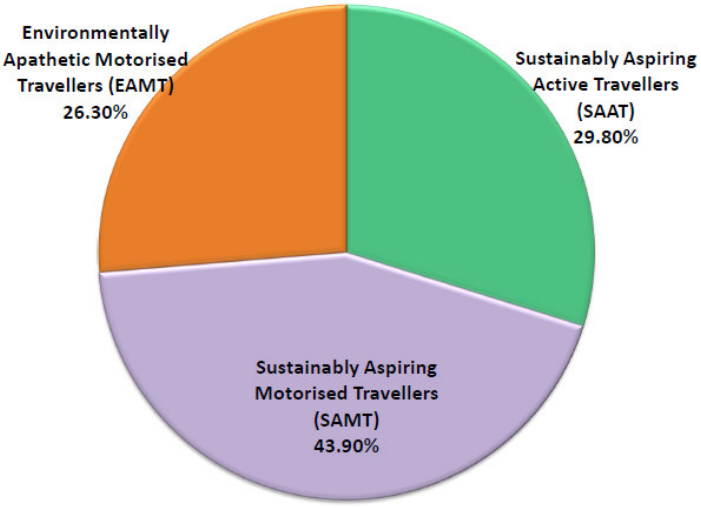

Figure 3. Behavioural – Attitudinal Groupings

3.3 Attitude-behaviour gaps

The subdivision of the sustainable aspirers group provides evidence of an attitude-behaviour gap as expressed by Anable *et al*. (2006), De Young (2000), Gardner and Stern (1996) and Howarth *et al*. (2009). There is a clear inconsistency between sustainable attitudes (i.e. the Sustainable Aspirers) translating into similar behaviour (i.e. Sustainably Aspiring Motorised Travellers) where an awareness of environmental issues and a strong willingness to behave more sustainably is overpowered by heavy motorised travel.

The attitude-behaviour gap identified in this paper confirms past research which suggests that this inconsistency acts in multiple ways: sustainable intentions are not translated into corresponding travel behaviour *and* unsustainable intentions are not always translated into unsustainable travel behaviour. This is true of the Environmental Apathetics who represent 29.4% of the Sustainably Aspiring Active Travellers. This brings to light that the perceived behavioural controls (or perceived barriers to travel behaviour change) are not exclusive to one attitude type (i.e. Sustainable Aspirers) and therefore an approach focussed more specifically on the barriers common to all Attitude and Behavioural groupings will be most effective at addressing this two-way attitude-behaviour discrepancy.

3.4. Perceived behavioural controls

Howarth *et al*. (2010) describes how, within the Theory of Planned Behaviour, awareness, beliefs, norms and attitudes influence intention which consequently impact on behaviour formation. Perceived barriers to behaviour change are a central element in the behaviour forming process influencing the likelihood of behavioural intention translating into actual behaviour.

A *perceived* behavioural control is the perceived feasibility of behaving a certain way and relates to the resources and opportunities available to an individual to carry out this behaviour. *Actual* behavioural controls on the other hand relate to a particular behaviour being carried out (Dijst *et al*., 2008), they are observable (i.e. inadequate public transport) and manageable. Perceived controls are produced by merging awareness, beliefs and norms which, depending on context, time and so forth, can lead to reluctance to perform a certain behaviour. Lorenzoni *et al*. (2007) found that perceived behavioural controls were responsible for a lack of behavioural actions and often inhibit sustainable behaviour change (King *et al*., 2009; DEFRA, 2008) on the individual and social levels (Table 1). In order to increase sustainable behaviour it is crucial therefore to address perceived barriers to behaviour change.

Perceived Social Barriers	Perceived Individual barriers
• Lack of peer and political action • Lack of business & industry action • Worry about free-rider effect • Social norms and expectations • Lack of enabling initiatives • Lack of suitable alternatives • Inadequate and mistrust of information • Scepticism • Lack of knowledge	• Lack of knowledge • Uncertainty and scepticism • Distrust in information sources • Externalisation of responsibility and blame • Climate change perceived as distant threat • Other things more important • Reluctance to change lifestyles • Fatalism • Feeling of helplessness • Costs of car use less than public transport • Needs not met by public transport • Inadequate public transport • Inconvenience of switching travel patterns • Habitual behaviour • Apathy towards change and effort needed

Table 1. Individual and social perceived barriers to behaviour change

The YCCC awareness campaign fails to address key perceived barriers to behaviour change: social norms and evidence of peer behaviour change; in failing to clearly illustrated the actions of other sectors (i.e. transport) and the targets set (Moisander, 2007). Its approach suggests that behaviours are targeted separately (i.e. it focuses on household emissions) and fails to highlight the linkages between behaviour changes at the household, leisure school and work levels. A clear barrier to behaviour change is the perception that individual changes won't make a difference in the grand scale of global climate change, in clearly stating household emissions account for 20% of the EU's emissions, YCCC isolates this set of individual behaviour changes which would in fact

address only a fifth of the overall issue. Lack of government action is a key barrier to behaviour change and YCCC is demonstration of the impact of an EU-wide initiative to reduce greenhouse gas emissions; yet awareness campaigns can at times be perceived as an automated government response to a pressing issue aimed at deflecting blame (Thørgensen, 2007). The campaign fails to target issues caused by social norms and mis-diagnoses the role these have in influencing behaviour change (Thørgensen, 2009).

Further analysis of the questionnaire responses along with focus group discussions identified that while Sustainable Aspirers perceived barriers to their ability to change and Environmental Apathetics perceived the barriers as to what could be achieved by changing, the actual barriers themselves in many cases overlapped in themes. In the 'You Control Climate Change' campaign, audiences are not considered to be divided yet these results highlight specifically how attitudes differ considerably and that perceived barriers to behaviour shape these views further.

Car dependence

Results found that attitudinal barriers to behaviour change related principally to lifestyle choices, travel habit and the privilege-driven dependence on the car. Travelling, whether out of necessity or for pleasure was perceived as imbedded in daily routines and therefore considered to be as efficient as could be and thereby unchangeable. The positive emotions connected with owning and using a car were mainly related to freedom, independence and comfort associated with it; strengthening the habit and consumerist aspects of personal travel.

> *'People used to work locally. Everything changed now, everything is a commute. How do you stop the need for people to travel? I go to evening classes twice a week and I take the car. (…) And there isn't much that's going to stop me doing that really...*' (Participant 21, Human Group, 25-54 years old, Environmental Apathetic)

Social norms and leadership

Results from Focus Group discussions showed that the perceived inaction of others translated as the perception that others do not do enough and at times maliciously try to free-ride on the sustainable travel efforts of others leads to a feeling that any effort made at the individual level will be offset by the inaction of others. Similar scrutiny on what is viewed as a lack of action and leadership from people in power (i.e. at the government level) drives resentment towards those who do not 'practice what they preach' and subsequently increasing inaction at the individual level. This also belittles the urgency of adopting sustainable (travel) choices depicted by the media and government policies and increases feelings of environmental apathy and passiveness reducing willingness to engage in sustainable behaviour.

Respondents expressed a need for incentives to make sustainable travel choices as opposed to penalties for not making any. In order to encourage the likelihood of sustainable travel behaviour taking place, one of the strongest requirements that emerged was political and peer leadership. There was an underlying stated reluctance and laziness to make a step towards sustainable alternatives before others around and individuals in power did. This was suggested to increase the perception that climate change is as urgent an issue mirroring the concerns of scientists, the media and politicians, and thereby allow individuals to observe political will, action and leadership increasing self-justified sustainable travel. The YCCC campaign is a government tool yet it only provides information, neglecting to clearly demonstrate what it is already doing and how the public can contribute to achieving emissions reduction targets.

Personal efforts inadequate to address climate change

Individuals felt that the changes they make on a personal level are not sufficient to address an issue as immense and abstract as climate change. This was expressed among individuals across all age, awareness, concern and cluster groups supporting the perceived lack of government support, influential leaders and transparent strategies.

> *'I don't believe they (individual changes) will drive much – they are contributing to the solutions. It's got to come from centrally driven policies. It takes legislative measures*.'
> (Participant 3, Human Group, Over 55 years old, Environmental Apathetic)

In line with the Theory of Planned Behaviour, addressing the belief that current transport options are insufficient to cater for individual travel requirements as well as reducing the influence of social norms relating to climate change as an issue itself will facilitate changes in travel behaviour.

Inadequate alternative options

A lack of adequate alternative options to cater to the needs and preferences of travellers were found to be predominantly a significant reducer of sustainable behaviour changes.

> '*You have to make it cost effective, if it's no cheaper than driving, people will drive; if it's inconvenient then people won't do it. You have to think about it and join it up*.' (Participant 33, Human Group, 25-54 years old, Environmental Apathetic)

A series of preferences at the individual level determined the use and re-use of transport modes and sustainable travel practices, these encompassed: adequacy, efficiency, convenience, comfort, travel time, cost benefits of use and

sufficient facilities to support these (i.e. cycling facilities). Whilst these may in fact be catered for, longstanding disdain for the use of other modes of transportation than the private car means that embedded opinions continue to control the exploration of new travel modes. Responses showed that inadequate information of alternative available options enhanced negative feelings for public transport and that providing up to date and easy to access information on these services could significantly increase their use.

4. THE ROLE OF INFORMATION ON CLIMATE CHANGE

The YCCC campaign is a good tool for disseminating information to the wider public however its existence has not reduced the rate of increase in emissions from the transport sector. It therefore lacks in efficiency when it comes to the type of information used, the target audiences selected as well as the information messages communicated to the public. Results from this research identified specific criteria by which climate change information needs to abide by in order to target the identified behavioural groupings and address the majority of perceived barriers to behaviour change.

4.1 Making things personal

Results showed that information on climate change to increase sustainable attitudes combined with information on specific impacts of personal travel behaviour (such as the impacts in terms of air pollution from personal travel) and finally relating these to the wider issue of climate change would be most effective at affecting behaviour. In order to encourage a shift to personal sustainable measures, information as specific as the environmental impact of individual journeys is necessary to increase understanding of the extent of personal impacts.

> *'My brother has a smart meter for his electricity and makes you aware. (...) although I don't want my life disrupted, if my car had a CO2 meter and a cost associated with it telling me the emissions of my journeys, then it would start to register.*' (Participant 4, Human Group, Over 55 years old, Environmental Apathetic)

The necessity for simple yet specific and personalised information reveals why the abundance of information already available on climate change and specifically from YCCC does not lead to observable changes in behaviour: information requirements are not being met and these need to be re-directed to address and satisfy public needs. Quantifying the environmental impacts of travelling in terms of CO_2 emissions increases awareness in an innovative and engaging way primarily informing individuals of their impacts as well as familiarising them with terms which they may not be exposed to regularly and therefore they may not fully understand (i.e. CO_2 emissions). Once understanding of travel impacts at the individual level is properly communicated,

comparisons with emissions of other transport modes provides opportunities for change allowing individuals to do this according to their own informed and personal choice.

4.2. Constant reminders and increasing feel-good factors

Changes in behaviour occur over a long period of time even if instigated initially by initiatives resulting in immediate changes. To support existing sustainable travel behaviour as well as encouraging first-time initiatives to change, constant information must be available to increase social acceptability of the causes and impacts driving the requirement for a shift to sustainable behaviours. Focus group respondents recognised the difficulties behind accepting a need for change and translating this into an actual behaviour adjustment, yet constant and innovative reminders on the reasons, the beneficial impacts (to the environment and the individual), the impact of personal efforts within the wider context and available options to facilitate these changes and transparency on initiatives taking place are a necessary requirement.

> '*If the impacts were talked about more widely, people would think about it. Change isn't something that's going to happen overnight, and in order to change mentalities, particularly when it comes to the leisure side of things because it's going to be difficult. It's a gradual thing. If we're constantly reminded about it, it would work. It's down to visualisation; it's seeing something that you understand in a quantity that is beneficial to you*.' (Participant 27, Human Group, 25-54 years old, Environmental Apathetic)

4.3 Combining direct feedback with financial gain

The benefits of changing behaviour must be made evident in the information disseminated to the public, something which lacks in the YCCC campaign.

Once the link between personal efforts and wider sustainable issues has been established, this alone is no enough to drive behaviour change, a combination with information on the benefits of changing behaviour is required to fulfil the role of incentives required to push voluntary efforts. Communicating the environmental benefits of changing behaviour consists of an incentive which is more likely to encourage Sustainably Aspiring Active Travellers; a financial incentive is required to achieve a long-term change across all behaviour groups.

> '*You want to show the population where it benefits them. You've got to pick a target that can be achieved. Money is the key*.' (Participant 3, Human group, over 55 years old, Environmental Apathetic)

Individuals are aware of the costs and savings associated with simple sustainable gestures aimed at reducing their environmental impact; the main objection to maintaining these changes is that the benefits are not clear enough.

Sustainable Aspirers often refer back to household-based measures they are encouraged to do (and perhaps are the ones they attempt as they are less intrusive and require less effort than travel-based measures) and highlight that they do not observe any benefits that would prompt them to maintain their efforts. In light of significant costs associated with basic energy consumption around their home, measures communicated as 'simple' (such as changing light bulbs or switching the heating down by one degree) actually produce a minimal saving to the individual, which then translates into a perception that therefore this cannot have a significant impact within the context of wider environmental issues.

> *'The savings by using an energy efficient light bulb compared to turning down the heating by 1 degree is negligible'.* (Participant 30, Human Group, 25-54 years old, Sustainably Aspiring Motorised Traveller)

A potential message that would encourage Sustainable Aspirers is demonstrating the long term detrimental impacts of climate change and the link this has with personal travel behaviour. Placing in a context where individuals feel a degree of responsibility towards the possible impacts their future generations will have to endure, through bringing the issue home to such a personal and emotive level, and if possible associated with environmental impacts, creates an opportunity for engaging individuals to assume control and change their behaviour.

> *'The fact that we have finer resources and the destruction of the planet, those images do hit home. They make me think about the next generations: what are we leaving to the next generations? If we all had a small effect the overall cost would be quite large*.' (Participant 2, Human Group, 25-54 years old, Sustainable Aspirer, Sustainably Aspiring Motorised Traveller)

However there is acknowledgment that current messages are not effective enough in communicating appropriately relevant information to enable to relate to the behaviour changes they are required to make.

> '*Difficult for government to get message across that the small change I'm making personally will make a difference*.' (Participant 17, Human Group, Over 55 years old, Sustainable Aspirer)

Informing alone will not engage individuals sufficiently to boost a switch towards sustainable travel, educating on the reasons and beneficial impacts of changing their behaviour and more specifically on the significant impact of each effort made at the individual behaviour will fuel public to change travel sustainably. Information directly relevant to a person's trip (i.e. content on personal emissions, or delivered strategically at a time when travellers are more likely to respond positively) is required as opposed to providing generalised information on climate change with the assumption that individual's will interpret this accurately and sufficiently to alter their behaviour.

5. CONCLUSIONS

Awareness of the overall topic of climate change has been achieved, particularly with middle aged (25-54 years old) individuals and this has been shown to lead to related concern. However, despite this level of awareness, this has not led to the desired travel behaviour changes suggesting that awareness of climate change alone is not sufficient.

The 'You control Climate Change' campaign is a European tool aimed at increasing awareness of climate change issues in the hope that individuals who already behave in a moderately sustainable manner will increase this and encourage others to do so as well. However it has no clear target audience and assumes that all individuals think and behave in the same way. In terms of targeting travel behaviour, it only encourages walking, an extreme modal shift particularly for those for whom travel by car is a necessity or who are reluctant to reduce their car use. YCCC does not target a crucial social norm which is evidence of peer behaviour, it informs on what can be done without linking domestic behaviours together or demonstrating what others are doing. The campaign crucially fails to acknowledge that people are individuals who make travel decisions according to their personal needs and preferences, a key requirement if travel behaviour is to be changed.

This paper highlighted the existence of three distinct behavioural groups: Sustainably Aspiring and Environmental Apathetic Motorised Travellers as well as Sustainably Aspiring Active Travellers, each determined by attitudinal and behavioural characteristics. These groupings have demonstrated that intention to change behaviour does not always result in this change and that behaviours can occur against attitudinal characteristics. Perceived barriers to behaviour change were also identified and found to be widespread across the groupings yet perceived differently making them varying in degree of influence. Incorporating these groupings into YCCC would significantly increase sustainable behaviour intentions as well as the likelihood that these translate into actual behaviours. YCCC's method of information delivery however, the internet, does target individuals aged less than 25 years old thereby maximising exposure to a target audience identified in this research paper as being more sceptical about the anthropogenic nature of climate change.

Information on climate change was investigated and found to be able to influence behaviour change as long as specific criteria were met. Firstly that it target specific audiences such as those identified in this research as well as acknowledging existing perceived barriers to behaviour change, something the YCCC campaign lacked. Secondly information must be made personal to increase a feeling of ability to change behaviour as well as highlighting that changes do make a difference. The information must be continuously updated contributing to increased positive feelings associated with behaviour changes

undertaken, and finally information must provide direct feedback on the changes achieved as well as the associated personal benefits.

The YCCC could be a successful campaign in achieving significant increases in sustainable travel behaviour if the criteria outlined in this paper are met. Although transport contributes to a quarter of global emissions, the psychological processes involved in travel-related decision making are similar to those associated with other behaviours and therefore should not be targeted separately.

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