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Title: **Understanding the normalisation of recycling behaviour and its implications for other pro-environmental behaviours: a review of social norms and recycling**

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Abstract

This paper examines our understanding of recycling behaviour in the context of its increasing normalisation in the UK. It reflects on the recent history of dry recycling (i.e. recycling of 'dry' materials such as paper, glass, plastics and cans) and asks the question as to what influence policy drivers and the increased provision of facilities for recycling have had on people's behaviour. In reviewing the evidence for recycling being considered a norm, this paper explores what influence norms, habit and identities have on recycling behaviour.

It then considers what lessons the evidence offers for using the normalisation of recycling behaviour in influencing more people to recycle and to adopt other sustainable behaviours. The somewhat contentious issue of whether engaging in recycling behaviours has a positive or negative effect on people engaging with other pro-environmental behaviours is discussed. The evidence shows that both positive and negative spillover occurs and understanding where the balance lies, as well as what effect recycling being a norm plays in this, is important in determining appropriate interventions to influence pro-environmental behaviours. The paper concludes with some observations on implications of the evidence on intervention approaches to influence pro-environmental behaviours.

Key words: recycling; pro-environmental behaviour; social norms; spillover; identity

1. Introduction

The question of why people do or don't recycle has long occupied researchers and practitioners seeking to understand and influence this and other pro-environmental behaviours. Recyclers, and non-recyclers, have been categorised by their social-demographics; economic status, their environmental attitudes, beliefs and values; the influence of family and friends and social norms; their access to facilities and services to enable them to participate in recycling; and their knowledge or lack of it. A significant body of highly complex and often contradictory literature, spanning more than 30 years of research, exists which has examined recycling behaviour from a range of discipline perspectives including psychology, economics, sociology, geography, marketing, and includes many interdisciplinary studies.

Earlier research often focused on profiling recyclers and understanding why people didn't recycle and the barriers they faced (Coggins, 1994; Schulz, 1995; Vining & Ebreo, 1990). Other studies evaluated the influence on people's willingness to recycle in terms of the situational or structural factors that they faced; such as access to facilities and services to enable them to participate, and the convenience of doing so (Martin et al, 2006; Derksen & Gartrell, 1993). They also sought to understand the influence of socio-demographic factors (Berger, 1997; Tucker et al, 1997), and people's knowledge and experience of recycling (Gamba & Oskamp, 1994; Thomas, 2001).

It is evident from the research that access to services and the ability to act has played a large role in participation in recycling behaviours. However, even when services are provided to enable people to act, not everyone participated or participated fully; and consequently research needed to look at other factors that may influence people's recycling behaviour.

Barr (2002) reviewed the literature around the influence on recycling and waste minimisation of environmental values, situational variables and psychological factors. He suggested that intention to act stemmed from environmental beliefs; whether that intention proceeds to action depends on modifying effects of situational and psychological factors. Martin et al (2006) contend that situational and/or psychological factors play a more significant role in determining individuals' recycling behaviour.

Research on recycling behaviours has increasingly focused more on the determinants of individuals' behaviour and on social psychological models of behaviour to understand how individual determinants might interact. A wide range of psychological factors and their relationship to recycling behaviour have been examined including attitudes, beliefs and values; social influences and social and personal norms; identity, perceived control and self-efficacy. The role played by these potential behavioural determinants has been reviewed in a wide range of papers (see for example Barr, 2007; Martin et al, 2006; Pocock et al, 2008; Shultz, 1995).

Conceptual models have also played an important role in providing frameworks to help understand the social and psychological influences on people's behaviour (Jackson, 2004); including Ajzen's Theory of Planned Behaviour (TPB), Stern's Value-Belief-Norm theory and Attitude-Behaviour-Context (ABC) model. These, and several other models have been reviewed by many authors in relation to recycling and other pro-environmental behaviours (see for example Jackson, 2004; Tucker, 2001; Burgess, 2008; Thøgersen, 1996; Stern, 2000; Darnton, 2008).

More recently a broader approach is being taken seeking to understand recycling behaviour in the context of environmental sustainability and climate change issues, and in moving people onto other pro-environmental behaviours (Jackson, 2004; Thornton,

2009; Austin et al, 2011). Furthermore, understanding behaviour in the context of social and cultural practices presents an alternative approach to that taken by social psychologists (Darnton et al, 2011). Oates and McDonald (2006) conceptualise recycling not as one task but as a heterogeneous group of tasks, some separated by time and place, and comprising complex everyday domestic practices. Other research explores how people dispose of their waste within the context of their daily lives at home (Phillips and Rowley, 2011). Shove (2010) argues for a shift away from the current focus on individual choice and influencing individual behaviour to an understanding of social and cultural specific practices and socio-technical systems. To address changing practice, Shove says that we need to '*shift the focus away from individual choice and to be explicit about the extent to which state and other actors configure the fabric and the texture of daily life*' (Shove, 2010, page 1281).

Despite many common threads, little consensus has emerged on what most influences recycling behaviour. We know from the literature that the provision of services and knowledge of how to recycle both play an important role in whether people recycle. However, as outlined above, and in the cited literature, there exists a complex picture covering a wide variety of factors that influence recycling - whether situational, related to socio-technical systems, individual behavioural determinants, or the interactions between them.

We also know that recycling is not 'normal' for everyone - not everyone recycles or participates fully in recycling. However, if recycling has become normative for many communities, there is an opportunity to learn why and how it has become so, and understand why a gap in recycling behaviour still exists for some. It is beyond the scope of this paper to consider all the influences on recycling behaviour; rather it is concerned with the specific issue of recycling becoming normative, and the implications this has for recycling and other pro-environmental behaviours.

This paper explores what influence becoming a norm for many has on those who don't recycle, don't recycle as much as they could, and the influence of recycling on other pro-environmental behaviours. Drawing on the existing evidence around the specific issue of normalisation, this paper seeks to address the following questions:

- Is recycling normative and, if so, how has it become so (or perceived to be) for many?
- For whom is recycling normative? And understanding for whom recycling is not a social norm.
- How is recycling normative? In this respect it is helpful to understand what the evidence tells us about the relative influence of social norms, habit and identity on recycling behaviour.
- What lessons does the evidence on normalisation of recycling offer:
 - In influencing those not recycling, or recycling a little, to fully engage in this behaviour?
 - For influencing or limiting the take-up of other pro-environmental behaviours? In this respect it is important not only to understand the journey that recycling behaviour has taken towards normalisation but the potential for understanding recycling in relation to spillover to other pro-environmental behaviours, rebound effects and ceiling behaviours.
- Where next? How can an understanding of the impact of the normalisation of recycling be used in interventions to influence more sustainable behaviours?

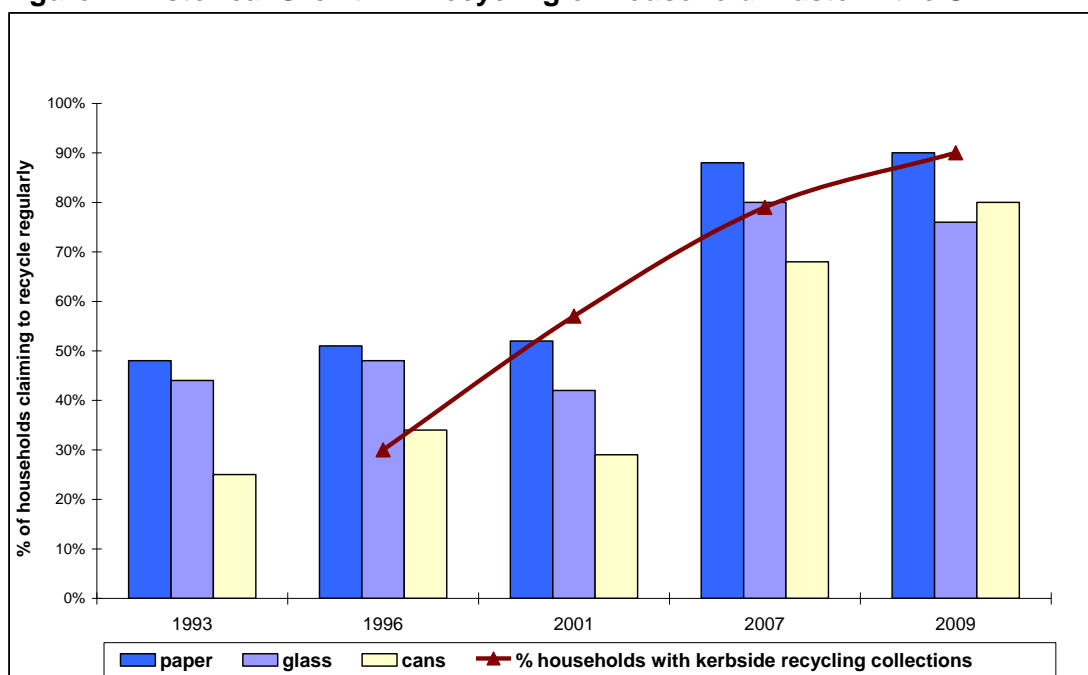
Although the focus of this paper is on recycling practice in the UK, it also draws on academic research and evidence from Europe and North America. Consequently the

issues raised and the papers conclusions have relevance beyond the UK context and particularly to environments where similar recycling provision exists.

2. How did we get here?

The relatively recent rise in recycling in the UK (as opposed to activity pre-1950s) is a multi-factor, multi-stakeholder story and includes EU directives, fiscal measures, the waste management sector, pricing structures, and local authority provision. It began with legislation - the Environmental Protection Act of 1990. In the same decade this was followed by the introduction of the UK Landfill Tax and the EU Landfill Directive 1999; and the Climate Change Act 2008. These measures were designed to manage waste and disposal in order to reduce overall environmental impact including reduce climate change impacts, encourage diversion from landfill to recycling, and stimulate waste reduction schemes by local authorities, social enterprise and civil society organisations¹. Other legislation and regulation have subsequently been introduced in England, Wales, Scotland and Northern Ireland, increasingly separately for the devolved administrations (Bonsall et al, 2010). In England, waste policy has been derived via a consultative process from which several waste strategies have developed. These have included the Waste Strategy 2000, Waste Strategy 2007 and the Government Review of Waste Policy in England 2011 (Defra, 2011b).

Figure 1: Historical Growth in Recycling of Household Waste in the UK



Sources:

Defra. Public Attitudes to the Environment. Digest of Environmental Statistics. Department for Environment, Food and Rural Affairs. 1998. Available from <http://www.defra.gov.uk/statistics/files/pas-summary-1997.pdf>; accessed on 22.05.2012

Hayward B, Turtle J, Carpenter H and Hanson T. Attitudes and Behaviour in relation to the Environment Report. BMRB Social Research for the Department for Environment, Food and Rural Affairs. 2007

Thornton A (2009). *Public attitudes and behaviours towards the environment - tracker survey: A report to the Department for Environment, Food and Rural Affairs*. TNS. Defra, London.

Alongside legislation and waste strategy, there has been government intervention through the financial support for recycling including the formation of WRAP (the Waste

¹ Comprising not for profit businesses (social enterprises), charities, community and voluntary organisations, housing associations, cooperatives and mutuals.

& Resources Action Programme) in 2002 to help develop markets for material resources that would otherwise have become waste; and provide advisory services to local authorities to help them influence public behaviour through national level communication programmes. Additionally, several governmental programmes have been provided to support local authorities to develop both infrastructure for recycling and communications campaigns to influence households to participate in recycling collection schemes as in the UK these schemes rely heavily on voluntary participation.

These drivers led to a dramatic increase in the provision of household kerbside recycling collections. As Figure 1 shows, the percentage of households who had access to a kerbside recycling collection rose from 30% in 1996 to 90% in 2009. This rise in local authority recycling is demonstrated by the amounts of household waste recycled: in 1999 less than 3% of all local authorities were recycling more than 20% of household waste; in 2008 more than 96% were. As well as local authorities providing recycling services, social enterprises and community groups have long been engaged in running recycling collections and continue to do so, particularly in more difficult or hard-to-reach areas (Slater & Frederickson, 2009).

More recently, policy interventions to encourage recycling have gone beyond the provision of services and communications to embrace a broader, more complex understanding of peoples' behaviour. In designing schemes and interventions, to encourage these 'harder to reach' households to participate in recycling and those already recycling to recycle more, this knowledge of habits, social practices, institutional constraints and other influencing psychological factors is essential. In this context, the recycling's journey to normalisation and its relationship to other pro-environmental behaviours has important policy implications.

3. Has recycling become normative in the UK?

Alongside the increase in provision of infrastructure and communications there has been an increase in individuals claiming to recycle regularly (see Figure 1), such that it has moved towards a normal behaviour that most people do. Several studies of recycling behaviour have pointed to the role that infrastructure provision has played in influencing recycling behaviour and embedding new practices around recycling. Barr's model of recycling behaviour suggests that convenient access to a recycling bin as the main 'normative' factor (Barr et al, 2001) and Stern's (Stern, 2000) ABC model (attitude, context, behaviour) shows that where the external conditions are optimal for recycling, attitudes impact less on the resulting behaviour.

Recycling has certainly become the norm in many communities. For example, recycling of materials such as paper, glass, plastics and cans (known as dry recyclables²) has become a much more common activity amongst individuals and households in many parts of the world. In 1993, recycling was a fairly marginal activity in the UK where less than half of households regularly recycled paper and only a quarter regularly recycled cans (Defra 1996). By 2009 it had become a more normalised activity where 90% of households normally put out paper for recycling and 80% did so for cans (Thornton, 2009). Actual recycling rates in England have also shown a dramatic increase with around 40% of waste from households currently recycled, as of 2011, compared to 11% in 2000/01 (Defra, 2011a). Although the figures for the amount recycled appear much less than the numbers of people who claim to recycle, this is easily explained, both by the fact that not all materials in the

² This paper is focused on recycling behaviour for these materials only and doesn't cover differences that exist concerning food waste recycling and composting behaviours.

household waste are either recyclable or collected for recycling; and also that people over-report their recycling behaviour, or simply do not recycle all of the materials that they might.

Communication activity and particularly that led by WRAP under the Recycle Now brand (launched in 2004), has also been key to mainstreaming recycling practices and driven awareness of facilities. This, in turn, has played a major role in encouraging people to recycle. Since 2002, the proportion of 'committed recyclers'³ has increased and by 2008 (Pocock et al., 2008) 71% of respondents fitted this definition. Research for the UK Department for Environment, Food and Rural Affairs (Defra) on the motivations for pro-environmental behaviour in 2010 found that recycling was the only pro-environmental behaviour they studied that could be viewed as becoming a societal level social norm (Bedford et al, 2010).

The influence of recycling infrastructure and specific communications need to be considered in the context of a period that has seen considerable change in attitudes and beliefs about environmental issues more generally. Although there is common agreement that attitudes do not necessarily lead a person to act on those attitudes, more recently researchers have found strong correspondence between attitudes and behaviour, or more specifically between attitudes and a range of relevant behaviours (Maio, 2011). It is important to understand the interplay between the effect of the provision of facilities and information, and other influences on peoples' behaviour, such as attitudes, habits, values and identities, That these drivers have all played a part in recycling becoming a normal behaviour is not disputed; the question now is what can we learn from this?

4. For whom is recycling a norm?

In attempting to define the characteristics of recyclers, a number of studies have used attitudinal surveys to produce segmentation models. In 2008, Defra published its environmental segmentation model which divides the public into seven clusters (segments) each sharing a distinct set of attitudes and beliefs towards the environment, environmental issues and behaviours (Defra, 2008). The model includes detailed profiles of each segment covering, for example ecological worldview, socio-demographics, lifestyle, attitudes towards behaviours and current behaviours, motivations and barriers, and knowledge and engagement⁴.

'Positive Greens' and 'Waste Watchers' (see Table 1) are the most frequent recyclers, recycling as much as they can, and both display a higher level of pro-environmental attitudes than the other segments. Positive Greens are motivated to recycle for pro-environmental reasons. However, 'Waste Watchers' are motivated predominantly, as their name suggests, to 'reduce waste' rather than being driven by pro-environmental reasons. However, recyclers – even Defra's Positive Greens and Waste Watchers – can still be encouraged to recycle more. For example, if Positive Greens are helped to see the practical impact of recycling in their local area, they feel more appreciated by the Council (Pocock et al, 2008).

³ Identified as people who respond to a survey by saying that recycling is very or quite important to them; that they recycle a lot or everything that can be recycled; and that they recycle even if it requires additional effort.

⁴ The seven segments are: Positive Greens, Waste Watchers, Concerned Consumers, Sideline Supporters, Cautious Participants, Stalled Starters and Honestly Disengaged.

Table 1: Profiles of those who recycle most

Segment 1: 'Positive greens' 18% of the population (7.6 million)

“I think we need to do some things differently to tackle climate change. I do what I can and I feel bad about the rest”

Positive greens consistently hold the most positive pro-environmental attitudes and beliefs and assess themselves as acting in more environmentally friendly ways than any other segment. They are most likely to have undertaken behaviours in the home including saving energy and water, and they are the heaviest recyclers. They are the least motivated by saving money, keen to avoid waste, and the most likely to feel guilty about harming the environment.

Segment 2: 'Waste watchers' 12% of the population (5.1 million)

“Waste not, want not' that's important, you should live life thinking about what you're doing and using”

Waste Watchers say that the environment is a high priority for them and they do more than any other (except Positive Greens) to help the environment. However their behaviour is driven by an urge to avoid waste rather than seeking to reduce their environmental impact. They are very committed recyclers, indeed they are most likely to volunteer that they cannot recycle any more as they already recycle as much as they can.

Source: Defra, 2008

Although recycling is becoming more of a normal behaviour, not everyone recycles or sees recycling as part of what they do. Clearly there are sections of the population and communities where it is not a norm or rather where different non-recycling norms persist. National attitudinal surveys show that levels of recycling remain lower among the younger age group (i.e. 18-24), in lower social grades, and those who live in flats or terraced housing. The main reasons given for them not recycling are that 'it is not on their radar'; that other social issues that are more important or of more immediate concern to them; they are too busy and it is easier for them to throw everything in the bin; they have not seen any information about recycling and are not clear about what can and can't be recycled; are not convinced that it makes a difference; and have nowhere to store their recyclables (Pocock et al, 2008).

Recycling may then be described as a 'boundary' behaviour, demarcating one group from another; for example setting out kerbside collections can differentiate one street from another. For recycling norms to have influence with individuals who don't recycle then they will need to have more in common in other ways with the majority of those who do.

5. How is recycling normative?

5.1 What does the evidence tell us about the role of social norms and their effect on recycling behaviour?

To address this question means asking what is a 'social norm'; how does a behaviour become a 'social norm' or normal practice; and how do social norms influence recycling behaviour?

There are several different types of norms described in social psychology. The social pressure exerted by knowledge that others recycle (descriptive norm) is believed to be stronger than the expectation of others that we should recycle (injunctive norm). Barr et al (2001) concluded that as recycling is a visible activity then social norms are a key determinant, i.e. the visible nature of recycling behaviour in 'putting out recyclables for collection' has a positive effect in encouraging people to recycle. Research by White et al concluded that '*social influence emanates from the attitudinal and behavioural characteristics of a psychologically relevant reference group rather than from the perceived pressure from other individuals*' (White et al, 2009, p154).

Research has shown that descriptive social norms or group norms can predict intention to recycle and recycling behaviour (Nigbur et al, 2010). When asked in surveys how much people thought that their neighbours recycled the picture has been one of gradually increasing levels showing this behaviour becoming more of a descriptive social norm. For example, in Western Riverside area of London surveys amongst residents (sample size = 2000) showed an increase in how many people were believed to be recycling from a perceived average of 25% in 2002 to 34% in 2003 (Thomas et al., 2004). Similarly in Hampshire 57% of residents surveyed in 2005 thought that recycling was something done regularly by most households in their area; up from 48% in 2004 (Thomas, 2006).

Defra's research on the motivations for pro-environmental behaviour found that some groups of people were content to put pressure on others to recycle more. This is both a descriptive (i.e. that your neighbours, or others in social groups to which you belong or identify with, recycle) and injunctive norm (i.e. the sense we have of how neighbours and significant others expect us to behave) norms (Bedford et al, 2010). They also considered recycling was becoming a 'pro-social norm' such that people can be stigmatised as selfish and anti-social for not recycling.

Although the path to becoming normal practice can be observed, the question of why recycling has become a social norm is more difficult to answer. There is clearly a trajectory from it being a marginal activity to normalisation and the growth in the adoption of recycling behaviour has been influenced by changing attitudes, provision of facilities, information and communication campaigns and the influence of others' behaviour. All have played a role in the growth of recycling activity and the development of recycling as a social practice.

5.2 What does the evidence tell us about the relative influence of social norms, habit and identity on recycling behaviour?

Research and evidence show recycling behaviour in the UK has become a social norm. But do people recycle because it's the normal thing to do; because others do it; because they feel pressure to conform or from others to do it? Or do they feel they should be doing it; or do so because the services are provided; because it's a habit; or because it is part of their identity and values? How does the influence of social normalisation compare with other determinants of recycling behaviour, such as it being a habit, or the influence of attitudes, values and identity?

5.2.1 Recycling behaviour in relation to habit

Habit matters because its influence on behaviour is not just deep, but widespread. According to research carried out using 'experience sampling diary' studies, 45% of our behaviours are undertaken at roughly the same time, and in the same place, each day (Neal et al, 2006). Dominant social psychological models have tended to describe behaviour as flowing directly from intentions (Ajzen, 1991). However, numerous

studies and human experience itself have shown that this is not always the case; habit has been highlighted as the principal reason why our behaviour does not unroll as planned (Triandis, 1977). It has now been shown that habit moderates the influence of intentions on behaviour (Webb et al, 2009), i.e. when the influence of habit on a behaviour is very strong, the power of intentions is low. Our behaviours can be automatic or reflective, or a combination of both.

Decisions about recycling generally take place in the social context of the household and recycling tasks are often seen as domestic in nature and part of everyday routines (Oates & McDonald, 2006; Pocock et al, 2008). As such they often become habits or habitual behaviours. They are not just a result of 'how often we have done something before' (frequency of past behaviours) but also that we have done it in the same context (have a stable context) and that it has automaticity and lacks conscious intent or awareness of action. Associated with this is the finding that high self-organisation (or having a system in the home for recycling) has been shown to support recycling as normalised behaviour, and has also been linked to recycling more materials and recycling more items within materials (Scott, 2009; Pocock et al, 2008). Behaviours that are habits such as recycling and everyday energy-related practices are grounded in assumptions of what are normal social practices. Understanding practices, and how people carry out these practices, and make assumptions from them of what it is normal to do, require an understanding of all the elements that support a social practice. The environment in which it takes place (or objects and infrastructure), the skills and know-how to do it (competences) and the meanings, ideas and interpretations of what the practice is, all contribute to why we do something. Waste disposal and recycling behaviours can be seen as practices that are aspects of cleanliness; and energy use to heat our home sufficiently to comfort (Shove, 2003).

Whilst recycling tasks may be seen as domestic, requiring minimal effort and being done by habit, however; in order to begin recycling, and for it to become part of everyday chores, requires strong internal motivation and this should not be overlooked. Another aspect is that as practices related to recycling often get incorporated into normal domestic routines, they can add to the domestic burden which can also become a barrier for many household types (Pettifor, 2012).

People can also be in the habit of not recycling and it has been shown that those with strong habits take little account of new or contextual information and that consequently their behaviour is not easily influenced by information to encourage them to change (Verplanken & Aarts, 1999). To change the habit of not recycling needs the practice of throwing recyclable materials away to be disrupted by a change in the environment or people's routines, which can allow behaviours to be reviewed afresh.

In one approach to addressing habits, Implementation Intentions have been used to provide simple 'if-then plans' which individuals adopt and rehearse, until new behavioural responses (i.e. habits) become encoded in their day to day environments (Gollwitzer, 1999; Webb et al, 2009). Implementation Intention techniques have been shown to be particularly useful in the psychological problem of getting started with new behaviours where good intentions are insufficient. However they require some pre-motivation to change behaviour. They have been applied in health and transport, but with limited examples of their use for influencing pro-environmental or indeed recycling behaviour.

Other approaches to interventions to disrupt habitual behaviours to introduce change have suggested using moments of change in peoples life-courses as opportune times to change habits; or targeting practices to bring about system changes that enable and sustain habit change among all individuals (Darnton et al, 2011).

5.2.2 Recycling behaviour in relation to identity and values

The role of identity in recycling behaviour has been explored in many research studies (see for example Crompton & Kasser, 2009; Nigbur et al, 2010; Gatersleben et al, 2011) and the way people behave is part of their identity. Identity refers to people's sense of themselves; how they see themselves. It relates to their values, which are an integral part of people's identities and reflect what they consider important and desirable. Values as well as identity have been found to influence both behaviour and attitudes (Crompton & Kasser, 2009). Although the concept of a Value-Action Gap is commonly accepted, Maio (2011) contends that it is not unbridgeable and that although a person's values may not predict a specific behaviour, they influence a broad range of behaviours. Maio cites research that found that a general measure of environmental concern was a much stronger predictor of a range of environmental protection actions than of recycling alone (Maio, 2011).

People who prioritise extrinsic values and goals such as achievement, money, power status and image tend to hold less positive attitudes towards the environment and are less likely to engage in positive environmental behaviours. Studies in the US and the UK have shown that adolescents who more strongly endorse materialistic goals in life report themselves as being less likely to turn off lights in unused rooms, to recycle, to reuse paper and to engage in other positive environmental behaviours (Crompton & Kasser, 2009). In arguing the case for the 'Frames and Values' approach to influencing behaviour, Kasser and Crompton (2011) contend that appealing to extrinsic or self-enhancement values undermines people's concerns about social and environmental problems. It may be pragmatic to appeal to status (e.g. owning an electric car) or financial benefits (e.g. saving money by saving energy) in order to encourage specific pro-environmental behaviours, but they argue that this approach will strengthen extrinsic values and work against encouraging greater overall environmental and social concern.

The social nature of identities is important as they both form through social interaction and also influence how people respond to the broader social world (Crompton & Kasser, 2009); and which in turn connects them with social norms. Related to the strong influence of identity is affiliation to social groups – the power of norms (Bedford et al, 2010). Personal norms are most influential among those with the strongest values (e.g. pro-environmental). If our personal norms, therefore, include the expectation that we should recycle then our identity will encompass being a recycler. Identity is hard to unravel from other motivations, but simply, it involves ongoing interaction between the self and society, and this relationship is often played out through (the purchase / acquisition of) consumer goods (Bedford et al, 2010). In research undertaken by Resolve (Gatersleben et al, 2011), specific recycling attitudes were found to strongly relate to specific behaviours with the link between identity and a specific behaviour being weaker. However, pro-environmental identities were found to link more strongly with a range of behaviours, as is the case with values and behaviours, and consequently it can be concluded that identity and values could play an important role in promoting a wider range of sustainable behaviours.

Identity can though in some circumstances be a strong driver of behaviour, such as when it is becomes under threat. Those whose identity does not embrace recycling, and not everyone's does, could see pressure to recycle as a threat to their identity. Threats to a person's identity can trigger resistance to change. Murtagh et al (2011) found that this was the case for those with motorist identities when this identity was challenged in a hypothetical situation challenging car use. This can be lessened if the person has previous experience of the desired behaviour, in this case using public transport. Groups who don't recycle may not want their current identity (of not

recycling) threatened, which it may if they were to join the recycling norm. Identity process theory (Breakwell, 1986 in Murtagh et al., 2011) offers a comprehensive theoretical framework and understanding of the processes of 'resistance to change'. Thus, understanding identities could play a role in influencing sustainable and recycling behaviours.

6. What lessons does the evidence offer?

6.1 What role could normalisation play in influencing those not recycling, or recycling a little, to fully engage in this behaviour?

Social group feedback that conveys messages about certain behaviours being 'normal' and 'what most other people do' can be used to encourage people to adopt these behaviours. This approach has been used in many campaigns around health and anti-smoking, drug and alcohol issues, but not very much in encouraging pro-environmental behaviours. In a study of consumers understanding of green and non-green behaviours, most behaviours weren't considered to be either of these but 'simply normal' (Rettie et al, 2009). They concluded that as successful environmental initiatives such as recycling are normalised then social marketing approaches to influence take up of these behaviours should do so in the context of social norms and by showing that others do them. Using social group feedback to inform and challenge conceptions of normal practices. In this way people can be 'nudged' towards adopting these behaviours (Thaler & Sunstein, 2009).

6.1.1 Examples of evidence of using social norms to influence pro-environmental and recycling behaviour

Shultz (2007) used normative messages to encourage people to reduce their energy consumption and found that descriptive normative messages which just stated the average amount used had a mixed effect. On the positive side, it encouraged those using more than normal to reduce their consumption. However it also had what they called a 'boomerang effect' (or rebound effect) on those with a lower than average consumption such that they began consuming more. Adding an injunctive message conveying approval for being below average or disapproval for being above average though was found to eliminate this effect.

In a study using feedback to activate the collective norm for recycling, messages to residents were directed at becoming 'the best street to recycle food waste' and included positive or negative feedback on whether their street was above or below average as well as encouraging them in both cases to do more. The intervention succeeded in increasing food recycling behaviour of nearly all participants. The exception were those living on a low recycling street who were already recycling, and it was concluded that they were discouraged by knowing that their neighbours weren't recycling much (Nomura et al, 2010). Community feedback was also used to enhance recycling participation in another project, where they found that the most effective feedback used social pressure by reporting that participation in their neighbourhood is worse than another neighbourhood (Nigbur et al, 2005).

6.2 Does recycling behaviour influence or limit the take-up of other pro-environmental behaviours?

Recycling has often been seen as a small and easy behaviour that can be a 'first step' to catalysing other pro-environmental behaviours and a focus on its promotion justified partly by its potential role in leading to more sustainable lifestyles. More recently, there has been growing concern that perhaps too much emphasis has been placed on recycling as a pro-environmental activity rather than tackling waste avoidance and other sustainable consumption issues. The evidence shows that both effects occur

and understanding where the balance lies, as well as what effect recycling being a social norm plays in this, is important in determining appropriate interventions to influence pro-environmental behaviours.

6.2.1 Does recycling behaviour spillover to other pro-environmental behaviours?

The mechanisms and motivations for spillover, where engaging in one behaviour might lead to undertaking other behaviours, have been found to be complex. Some evidence has been found of pro-environmental behaviour change being catalysed by information, knowledge, awareness or social context (Austin et al, 2011). Deliberative and community engagement are considered potential catalysts for moving people onto engaging with other pro-environmental behaviours. Has this been the case – has the concept of spillover worked for pro-environmental behaviours?

Positive spillover within pro-environmental behaviours is still a contested area. Crompton and Thøgersen (2009) reviewing the evidence for small, simple pro-environmental actions acting as entry points for moving on to more sustainable lifestyles found only weak and equivocal support. Similarly, Thøgersen and Olander (2003) in a study of environmentally friendly behaviours with Danish consumers found few cases of spillover and only weak effects. Some pro-environmental behaviours though are found to co-occur but whether doing one behaviour influences another or whether both are influenced by other factors, such as values, skills or resources, is not clear in many cases.

Recycling has been generally seen as a small and easy behaviour that can be a ‘first step’ to catalysing other sustainable consumption behaviours. Positive spillover is thought to be more likely for behaviours of comparative ease and not expected to lead people to undertake more difficult and significant behaviours. Much of the evidence for spillover within pro-environmental behaviours tends to be in this context, within related behaviours or other ‘small’ behaviours, as in these examples (Austin et al, 2011):

- The provision of energy audits and energy saving tools in one project led to participants adopting more sustainable waste and shopping behaviours
- Some evidence has been found for spillover occurring from schools to homes in projects that have worked with schools to encourage pro-environmental behaviour amongst pupils, staff and with parents. However this has not always been observed and where it has it was thought to be related to social context and knowledge/awareness of the parents
- There is some evidence that people see themselves as ‘taking the next step’ in moving onto other pro-environmental behaviours such as in the research by Tucker and Douglas, 2007 on waste avoidance behaviours; and of recycling being the first step before moving on to water and energy conservation behaviours (Berger, 1997)

Spillover is thought to probably work more for people with certain values and norms and that general pro-environmental values would work as a mediator of spillover of pro-environmental behaviour (Gatersleben et al, 2011). Spillover is also considered to be more likely to happen from behaviours that are not social norms. People are less likely to see ‘taken for granted behaviours’ as indicative of pro-environmental values and thus link these with other sustainable behaviours and which may affect their self-perception. This leads to the supposition that normalisation could be employed to encourage people to recycle more, but that if recycling has become the social norm then it is not a good behaviour to use to encourage spillover.

6.2.2 Recycling behaviour in relation to negative spillover to other pro-environmental behaviours

Negative spillover can arise unintentionally from situations where a pro-environmental behaviour leads to financial savings which are then spent on environmentally detrimental behaviours. However, it can also include deliberate actions where undertaking a pro-environmental behaviour is seen as compensating for another behaviour that is not environmentally-friendly. Crompton and Thøgersen (2009) argue that negative spillover is more likely to be found where behaviours are not based on environmental attitudes and values and cites research findings that individuals with a fairly negative attitude to the environment are more likely to justify their car driving on the basis that they recycle. However, participants were less willing to accept this statement if they had more positive general environmental attitudes. In another study, in relation to driving and energy efficiency behaviours, Midden et al (2007) found 'not using your tumble dryer' was seen to compensate for 'driving to work'.

Barr suggests that for some individuals, being environmentally conscious at home could be used to justify or trade off their lack of commitments whilst on holiday – tourism represents an environmentally-conscience free zone: *'I do [things], like I recycle 100% of what I possibly can so like now, there's not one piece of paper goes in my bin, so that kind of makes me feel less guilty about using my car as much as I do [and] flying as much as I do'* (Barr et al, 2010 p479). This view is further supported in a Defra study on leisure and tourism, where some participants conclude that *'there was no need to make environmentally aware leisure and tourism choices if they carried out other environmental actions instead'*. In other words, they felt that by recycling they earned the right to fly *'at least I [recycled] those two bottles so I won't feel as bad when I get on the plane'*. (Miller et al, 2007 p13)

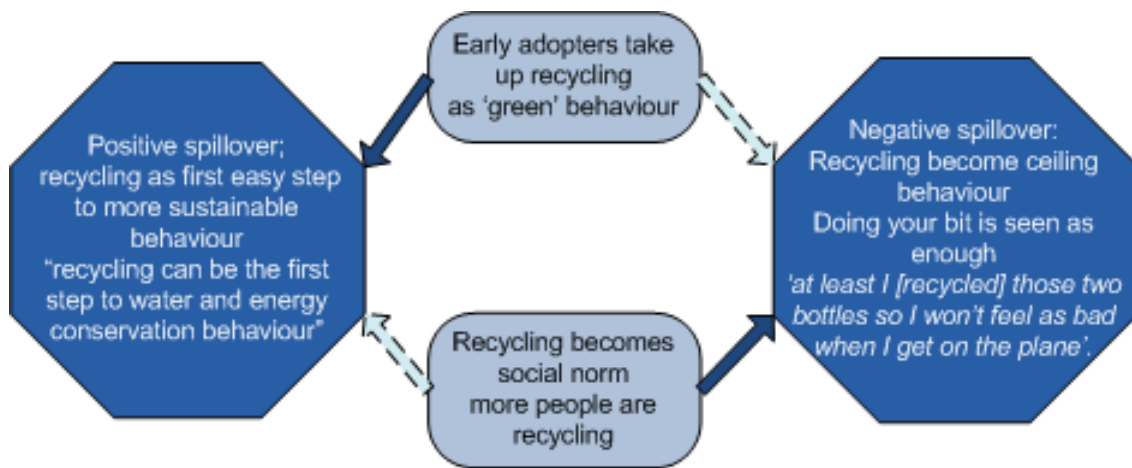
Another way in which engaging in recycling can limit the uptake of other pro-environmental behaviours is when it acts as a ceiling behaviour – i.e. where someone believes that they are 'doing their bit' and don't need to do anymore; when recycling crowds out other pro-environmental behaviours. Also known as the 'single action bias' (Weber, 2006) it describes the tendency that individuals have that once they engage in a single action in response to uncertain, worrying or risky situations they become much less likely to take additional steps to deal with that issue. Weber suggests this single action reduces the individual's worry about the issue and makes them less likely to take additional steps, whether or not the action they take is the most effective one.

'Doing Your Bit' is seen as the predominant environmental role in contemporary society. The role allows individuals to endorse the pro-environmental beliefs which society recognises as good, whilst at the same time remaining within the 'work-consume dynamic' (i.e. consumption is a reward for hard work). It is notable in research that where people talk about 'doing their bit', they generally mean 'just a little bit (and no more)'. In this way, the prevailing pro-environmental identity of 'doing your bit' represents a ceiling to more far-reaching behaviour change.

There is some concern that recycling can 'absolve' individuals from an obligation to act in other areas, perhaps by making them think that recycling solves the waste problem or 'compensates' for not doing other things. Within waste behaviours, recycling activity was found to hinder moves towards the more sustainable activity of reducing waste (Barr, 2001); and another study found people used the phrase 'doing my bit' to mean that they were recycling, and were unprepared to do anything more for the environment (Bedford et al, 2010). This is an example of the contribution ethic which implies that refraining from performing a specific pro-environmental behaviour is justified if one is already 'playing ones part' in other ways.

Research in Hampshire demonstrated that the recycling norm had become so strong that this is what people generally understood when they were asked to reduce waste (Brook Lyndhurst, 2008). Not making a conceptual distinction between waste minimisation / reduction / prevention and recycling is widely observed in the literature (e.g. Tucker & Douglas, 2007). Additionally, Barr's research shows those who recycle with a kerbside recycling service are less likely to reduce, reuse or carry out 'reducing' behaviour (Barr, 2001). However, Tucker and Douglas (2007) found evidence that highly motivated recyclers who recycle beyond their kerbside scheme may also be motivated to prevent waste, while less motivated recyclers who take advantage of the kerbside scheme just because it is provided may also lack the motivation for waste prevention.

Figure 2: Positive and Negative Spillover with Recycling Behaviour



From this evidence it can be surmised that positive spillover from recycling to other sustainable behaviours is more likely from early adopters or those recycling due to stronger pro-environmental identities and values; whereas negative spillover becomes more likely when recycling has become the social norm and those not having wider pro-environmental identities and values start recycling (see Figure 2). However these effects should not be exaggerated. In a recent article, Thøgersen (2011) concluded *'...the existing evidence does not suggest that there is a big risk that people think they have already done enough when they have done small and simple things for the environment. However, neither is there currently much reason to hope that a sustainable lifestyle will grow automatically from the promotion of the many small and painless steps that people can take for the environment'*.

7. Conclusions: implications for interventions to influence pro-environmental behaviours?

Drawing on the evidence reviewed in previous sections concerning the normalisation of recycling behaviour, we conclude here with a number of observations about the direction that possible interventions to increase the adoption of sustainable behaviours might take. The visibility of recycling, and the 'social pressure' exerted by the knowledge that others recycle, have had a positive effect on recycling behaviour and enabled new norms to become established. The provision of facilities make it 'easy to do' and has played an important role in activating a 'normative' effect and the visible nature of 'putting out recyclables for collection' has encouraged people to recycle. Recycling tasks have also generally become part of everyday household routines requiring minimal effort and have become habitual. Strongly related to norms is the

influence of identity. If personal norms include the expectation that we should recycle, then our identity will encompass being a recycler.

Recycling can be considered a 'boundary' behaviour demarcating one group and from another and thus categorising individuals in two groups:

1. Those who see themselves as a 'recycler'. They are part of the wider social norm – whether they recycle everything they can or only recycle a little; or whether they recycle for pro-environmental reasons or not – being a 'recycler' has become a normal, everyday and habitual behaviour and part of their identity. However, for some in this group recycling has now become an 'excuse' to compensate for undertaking another less sustainable behaviour, or it has become a 'ceiling' behaviour whereby people believe they are 'doing their bit' and, as a result, choose to do no more.
2. Those who see themselves differently because they do not recycle. For this group 'not recycling' has become the norm. This group can see themselves differently in that the pressure to recycle is considered a threat to their identity. People in this group can also be in the habit of not recycling and, where this is particularly strong, recycling will be challenging to influence without the motivation to do it. However, this group are not as well understood or researched as the majority who do recycle, at least to some extent.

However, identity is undoubtedly more complex than this, with it more likely that a gradation of recycling identities exists, particularly in relation to the relationship between recycler and pro-environmental identities. Some recyclers will identify their recycling behaviour as consistent with their pro-environmental values. Others who recycle and do so because it is the social norm and/or a habit, and whose identity therefore encompasses recycling, but who do not have broader pro-environmental values, may be aware of the pro-environmental nature of recycling but not see themselves as behaving in other pro-environmental ways.

7.1 Making recycling normative for non-recyclers

To encourage non-recyclers to begin recycling and for recycling to become a normal behaviour for them, interventions need to not only address issues of understanding and ease through provision of services and knowledge, but also of identity. For non-recyclers the norm is to throw everything into one bin and interventions seeking to change that norm can encourage recycling by making it easier, and reducing the confusion about what can and cannot be recycled by providing clear information on what, how, when and why recycle. Normative messages can encourage those only recycling a little to do more, or those not recycling but who do not identify themselves strongly as non-recyclers to begin recycling. However, those who do identify themselves strongly as non-recyclers are unlikely to be influenced by normative messages where they don't identify with that social norm.

Research indicates that identity, and the potential threat to identity, can also play an important role in influencing recycling behaviour, particularly for those who do not currently recycle. This suggests that due consideration should be given to the role of existing identities in designing interventions to encourage people to recycle who currently don't, moving beyond 'blanket' communication approaches. Drawing on the existing, albeit limited, evidence, interventions should seek to be non-threatening to, and take into consideration continuity of, the existing identity, self-efficacy and distinctiveness (in other words the identity must feel niche, valued or valuable for those concerned). Interventions may also need to be considered in the wider context of issues such as crime, anti-social behaviour, overcrowded housing, ill-health, debt etc.

particularly when introducing or increasing recycling among deprived or vulnerable communities, as identities will be influenced by many factors.

The role of habit also matters because of its potential influence on helping people to recycle and / or recycle more. Little is known specifically about the influence of habit in the context of recycling behaviour (e.g. unlocking or disrupting the existing habits of those who currently don't recycle, but may be motivated to do so). The use of Implementation Intention techniques have been shown to be particularly useful in helping people in getting started with new behaviours where good intentions are initially low. Simple 'if-then plans' are generated, adopted and rehearsed, until new behavioural responses (i.e. habits) become encoded in day to day environments (Gollwitzer, 1999 and Webb et al, 2009).

Research should be undertaken to better understand (a) the role of habit and social norms in the context of recycling, (b) the concept of what is 'normal' and the associated meanings of what is 'normality'; (c) whether it is necessary for those who don't recycle to have more in common with those who do; and (d) to examine the potential to carve new identities which would 'allow' those who feel pressured to recycle to do so without the prevailing threat to their identity. However, until such research takes place, and interventions respond, it is likely that those who see themselves differently because they do not recycle, will continue not to recycle.

7.2 Moving recyclers on to other pro-environmental behaviours

When people believe that they are 'doing their bit' they generally mean 'just a little bit (and no more)' (Brook Lyndhurst, 2009). Furthermore, recycling has been found to 'absolve' some individuals from an obligation to act in other areas by compensating for not doing other things. Of notable concern is where recycling has become so strong as a social norm, that it has been found to limit the uptake of other behaviours such that it is hindering moves towards the more sustainable activity of reducing (or preventing) waste. The evidence shows that there is confusion when people are asked about reducing waste such that they automatically think about recycling. However, this may be due to those engaging in recycling being aware that it benefits the environment (and not many people in the UK today would not be) but who do not hold sufficiently pro-environmental values to engage in other sustainable behaviours. Understanding the values and identities of those who currently do recycle, where recycling has either become an 'excuse', or a 'ceiling' behaviour, is essential to provide insight in encouraging other, more far-reaching, sustainable behaviours. It is also relevant for designing interventions aimed at those not currently recycling, such that influencing them to recycle should also avoid recycling becoming a 'ceiling' behaviour for them.

Spillover, where engaging in one behaviour might lead to undertaking other behaviours, has been found to be complex. It is thought more likely to happen from behaviours that are not social norms, and recycling as a 'taken for granted behaviour' is then less likely to be linked with other sustainable behaviours. Consequently normalisation could be employed to encourage people to recycle more, but that if recycling has become the social norm then it is not a good behaviour to use to encourage spillover. In this situation it is less likely to encourage spillover to other sustainable behaviours, unless it is part of a pro-environmental identity. This conflicts somewhat with evidence that recycling behaviour (already an established norm for many) has been found to be used (intentionally and unintentionally) to compensate for other less sustainable behaviours (e.g. flying). Greater understanding of spillover, both positive and negative, is clearly important in designing interventions to encourage recycling and other pro-environmental behaviours.

More research is needed to understand (a) the implications of spillover to positively or negatively influence other sustainable behaviours; (b) if recycling can be positively influenced as a result of spillover from other pro-environmental behaviours, and (c) what the implications are for designing policies and interventions to manage such consequences. Research should also seek to better understand the role of habit and the potential use of Implementation Intentions in influencing recycling behaviour, particularly when the influence of habit on recycling behaviour is found to be very strong, and where the power of intentions is low. Further research is clearly needed not only to strengthen the efficacy of recycling interventions, but to understand and mitigate the effects of unintended consequences. In the meantime, interventions to encourage recycling should be kept separate and distanced from waste prevention and other sustainable behaviours. This is to ensure that recycling does not become confused with other behaviours.

As recycling has increasingly become normative in the UK, the priorities for policy interventions to further increase recycling of household wastes have shifted. Earlier research and policy placed more focus on the provision of facilities and knowledge or communications, as well as concern around understanding what motivates people to recycle. Situational variables are still important factors that impact on recycling, but as the provision of services and information has become more commonplace, and it is clear that not everyone recycles, attention has turned more to the complexities of the many social and psychological determinants of recycling behaviour. Awareness of the role that normalisation plays in this contributes to developing policy and the need for more innovative and distinctive interventions that build on growing understanding of these issues.

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