

APPROACH

SPRING 2010

Welcome

Welcome to *Approach* – the newsletter from the social research team at Ipsos MORI Scotland. Now on its fifth edition, the newsletter aims to provide an insight into new research methods and ideas, as well as taking a fresh look at more established ones. We hope that you continue to find *Approach* an informative and useful source of news, thoughts and comments.

The latest edition features three articles, each of which looks at different aspects of researching people's behaviour and attitudes. *Researching Behaviour Change* examines two different models of behaviour change and explains how they can be used to help shape research design. *Using Segmentation in Social Research* demonstrates how segmentation analysis works and how it can be used to identify the factors that influence respondents' attitudes and behaviours. We also have a book review of *Predictably Irrational* by Dan Ariely, which examines the rational, and often irrational, thought processes that people use in making decisions and the implications this has for researching behaviour.

If you would like to offer feedback or suggest topics that you would like to see covered in future editions of *Approach*, please email sara.davidson@ipsos.com or call Sara on 0131 226 8673.

Researching behaviour change

Growth in interventions aimed at changing behaviour has fuelled a demand for evaluation across a wide range of policy areas. However, the process of behaviour change is complex and lengthy. So how do you go about measuring success? This article uses two existing models of behaviour change to show how these can help identify realistic and measurable goals and shape research design. (see page 2)

Using segmentation in social research

Basic approaches to analysing survey data often don't fully reveal the patterns that exist beneath the surface. However, there are a range of analytical techniques that allow us to delve deeper and identify what is really driving survey findings. This article explores how segmentation can be used to help social research in this respect. (see page 4)

Predictably irrational

Here we review the book *Predictably Irrational* by Dan Ariely, in which he carefully dismantles anything you ever thought you knew about how people think and what influences behaviour. Ariely's goal is to understand decision-making and why people's decisions are so often not based on a rational analysis of needs and wants or costs and benefits, but habitual choices, anchored in arbitrary initial decisions, judged relative to alternatives and manipulated by politicians and marketers. (see page 7)

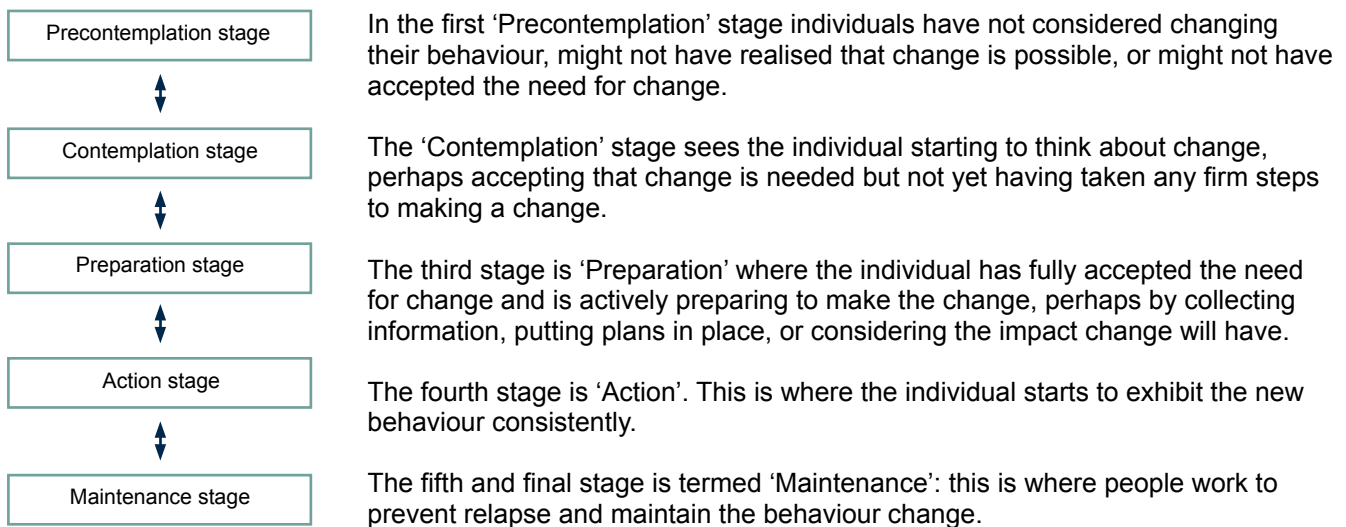
Researching behaviour change

The recent growth in interventions aimed at changing behaviour has fuelled a demand for evaluation across a range of policy areas, from encouraging healthy eating to persuading people to reduce their carbon impact.

However, the process of behaviour change is complex and lengthy and often it is unrealistic to expect an initiative to have a direct immediate impact on behaviour, especially during typical evaluation timescales. It may, however, go some way to enabling behaviour change.

So how do you go about measuring success? This article uses two existing models of behaviour change – Stage Theories and Theories of Reasoned Action - to show how these can be used to identify realistic and measurable goals for an initiative and help shape research design.

Stage Theories of Behaviour Change (also referred to as Transtheoretical Models) can identify changes in attitudes and intentions short of actual behaviour change. The model conceptualises behaviour change as a five-staged process, with individuals moving between these different stages (and back again). Although these models have an inherent hierarchy, movement is not presumed to be linear, but can involve progress, adoption, maintenance, relapse, and resumption of a new behaviour. Because of the way they conceptualise behaviour and behaviour change, stage theories are particularly useful in assessing public health interventions such as reducing smoking and drinking, improving people's diets, and encouraging people to exercise regularly.



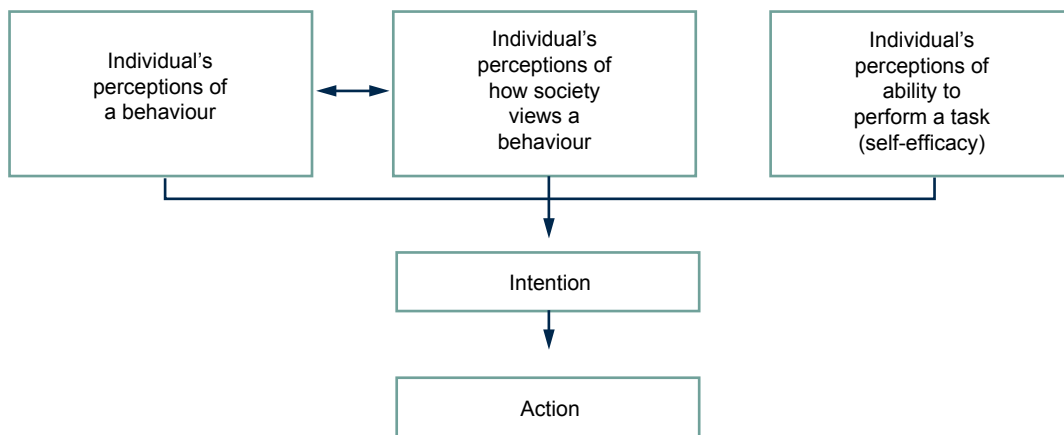
By understanding how behaviour change happens, stage theories suggests that encouraging a step-by-step movement along the continuum is likely to be more effective than encouraging direct movement into action. The emphasis these models place on the stage of readiness of the individual can help in considering research models and policy interventions that will fit with the various stages.

We can ask: is a particular intervention trying to persuade its target audience to undertake a change? providing support or information at the preparation stage? trying to ensure that intentions are translated into actions? For example, Smokeline is targeted at those at the contemplation/preparation stage of giving up smoking right through to those at the maintenance stage of not smoking. Therefore one outcome would be its effect on assisting people to move from the preparation stage to the action stage. In contrast, an advertising campaign to encourage environmental awareness may be targeted primarily at the people in the earlier stages of the model. The measures used to judge the success of such a campaign should reflect this, by examining pre- and post-campaign environmental awareness and potentially any knock-on effects on intentions to change behaviour.

A further question to ask is, whether a particular intervention is targeted at all people or people at particular stages in the continuum, and how it might affect the proportion of people at each stage? Consider Smokeline again. It is not only targeted at people who are thinking about giving up smoking, but also at those who have given up and are trying not to relapse. A full evaluation of Smokeline would have to examine its impact in both these areas – it may be more successful in one or the other.

Theories of reasoned action/planned behaviour suggest that a person's behaviour is largely intentional and that these intentions are shaped by a number of factors:

- perceptions of the behaviour and, in particular, how they view the value of adopting a behaviour
- perceptions of how society views the behaviour and, in particular, their perception about how people they care about will view the behaviour
- and their belief in their ability to perform the behaviour.



This is just one of several theories that explore how attitudes relate to behaviour. Simplistically, the more favourable the individual's view of the behaviour **and** the more favourably they think the behaviour is viewed by society as a whole **and** the higher they perceive their ability to perform a behaviour, the stronger the intention to act should be and the more likely that the behaviour will be undertaken. The importance of the subjective norm element of the model – perceptions of how society views a behaviour – has been clearly seen in areas such as encouraging the use of seat belts, or discouraging drink driving.

The campaign, "Foolspeed", which aimed to reduce speeding is a good example of how the Theory of Planned Behaviour can be put into action. Underpinned by this theory, three separate adverts were developed, with each advert targeted at influencing the three different elements that shape intentions. The first advert showed a driver arguing with his own conscience about his speed. It was designed to challenge the common perception that individuals are better drivers than the average motorist, with the strapline "Take a good look at yourself when driving".

The second advert showed a driver with various passengers and contrasted the mismatch between the driver's own (high) view of his behaviour with the disapproval of his family and friends. It was designed to address the subjective norms component, and had the strapline, "Put yourself in the passenger seat. If you don't others won't". The third advert was designed to address the self-efficacy element, in other words, the driver's perception of how easy or difficult it is to control their speed. It depicted various pressures, such as being late for work and having an impatient driver following behind them. The message it conveyed - "Be your own man" – was that drivers are responsible for their own driving and should control these various pressures. The research undertaken to evaluate the effectiveness of the campaign, collected measures for all three factors before and after the campaign, and were analysed together with a measure for speeding behaviour.

There is no single theory that can be universally applied to influence and understand all types of behaviour in all people, and some models are more applicable to particular behaviours than others. And in the space of this short article, we can only touch on two of the many theories but hopefully these two short examples will help in deciding how best to evaluate policy aimed at changing behaviour. If you want to find out more, a good starting point for further information on the various theories and their uses is the [Government Social Research Knowledge Review on Behaviour Change](#).

Using segmentation in social research

Basic approaches to analysing survey data often don't fully reveal the patterns that exist beneath the surface. However, there are a range of analytical techniques that allow us to delve deeper and identify what is really driving survey findings. One of these techniques is segmentation, a form of analysis that examines relationships between several variables. It divides the population into segments based on their shared characteristics (there might be a mix of demographics, socio-economic and lifestyle characteristics, behaviours and attitudes) and the extent to which these characteristics are associated with respondents' behaviours and/or attitudes. The key to understanding segmentation lies in what makes respondents within each segment similar, and what differentiates them from respondents in other segments.

The intricacies of how segmentation works are beyond the scope of this article, the aim of which is to demonstrate the basic principle and purpose of segmentation using an example from a recent survey.

Segmentation in action

The 2008 Scottish Environmental Attitudes and Behaviours Survey (SEABS) included a question to gauge how often people use kerbside bottle recycling facilities. The response options were *always* or *less often* (most times, sometimes, rarely, never).

Cross-tabulation shows that respondents who always use kerbside bottle recycling are more likely to;

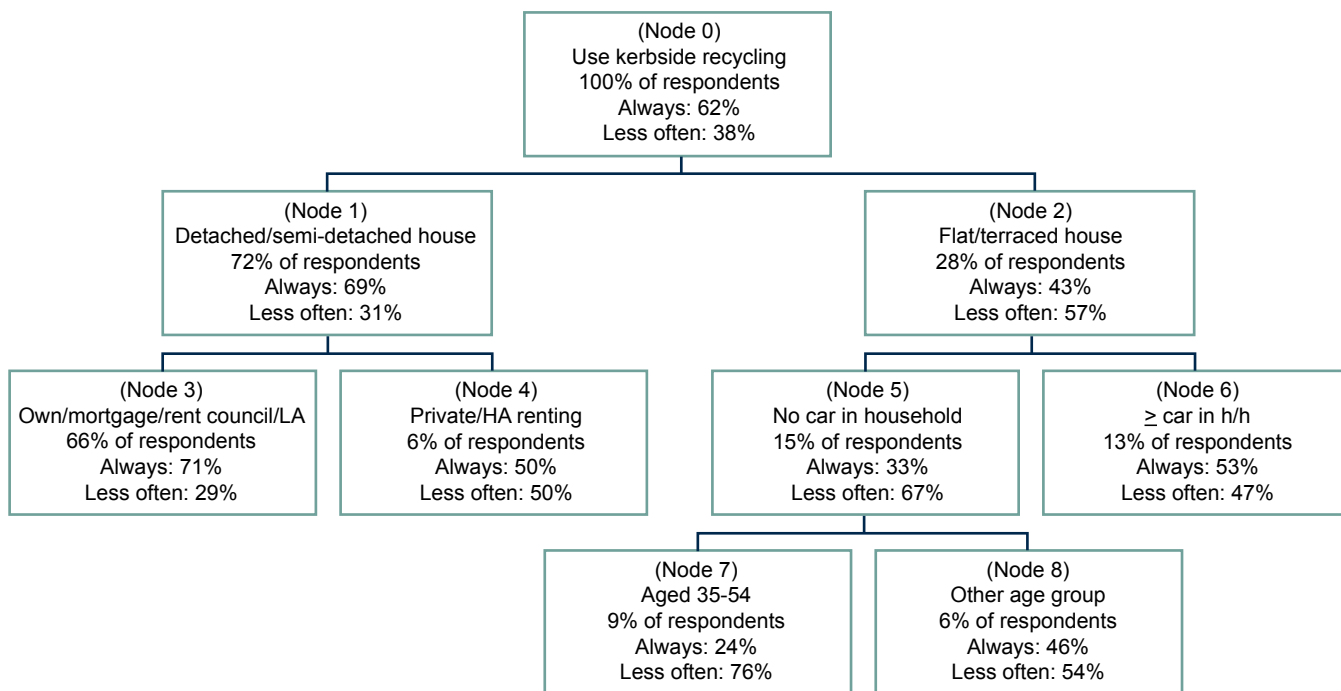
- be aged 35 or over (rather than aged 16-34)
- belong to socio-economic group AB (rather than to C1C2DE)
- own their home outright or are buying with a mortgage (rather than renting)
- be living in a detached or semi-detached house (rather than a flat or terraced house)
- have two cars in the household (rather than have no car, one car or more than two cars).

From this, we start to construct a picture of the type of individuals who always use kerbside bottle recycling where it is available. However, each of the characteristics listed above is considered one at a time, which means we don't get a sense of how they combine or the extent to which they influence respondents' behaviour.

Regression analysis can help to address this weakness by looking at which of the characteristics listed above has the most impact on people's use of kerbside bottle recycling. From this, we find that dwelling type has the biggest impact - perhaps because people living in detached or semi-detached houses are more likely than those living in flats or terraced housing to have space to store bottles between collections.

Segmentation can add yet another layer to our understanding of the data by bringing these characteristics together to see how they interact with one another. As a result, it gives us a more rounded, three-dimensional picture of the characteristics shared by people who always use kerbside bottle recycling.

We have used a CHAID analysis technique to segment respondents. CHAID begins by segmenting respondents based on the characteristic which has the most impact on what is being analysed. This produces two or more segments of respondents (depending on the number of categories for that characteristic). CHAID then looks within each segment and divides it based on the characteristic that has most impact on that specific group. It continues to do this until segments can't be split further. The diagram below shows the final CHAID segments and how they are established by following the route taken through the nodes created at each split point.



Consistent with the findings of the regression, the diagram shows that dwelling type has the most impact on use of kerbside bottle recycling and CHAID begins by segmenting respondents into those who live in a detached or semi-detached house (Node 1) and those who live in flats or terraced housing (Node 2). Within Node 1, tenure then has the most impact and these respondents are segmented into a further two nodes – respondents whose house is owned/mortgaged or rented from the council/local authority (Node 3) and respondents who rent from another source, such as private landlords and housing associations (Node 4). On the other side, respondents in Node 2 are segmented into those with access to car(s) in the household (Node 6) and those without (Node 5). Node 5 is then further segmented by age, separating respondents into those aged 35-54 (Node 7) and those outwith this age group (Node 8).

The group most likely to always use kerbside bottle recycling are those in Node 3, 71% of whom said they always use kerbside recycling. These respondents live in a detached or semi-detached house which is owned/mortgaged or rented from the council/local authority. Respondents in Node 7 are the least likely to always use kerbside recycling, with only 24% saying they always use it. They live in flats or terraced housing, have no access to a car and are aged 35-54. Although our earlier findings showed that respondents aged 35 and over were more likely than younger respondents to use kerbside bottle recycling, CHAID finds that age only really matters when combined with other factors.

Some interesting findings can be drawn out if we look more closely at the characteristics of respondents in Nodes 4 and 6. Respondents in Node 6 do not live in a detached or semi-detached house, which our findings suggest is the most important characteristic of respondents who always use kerbside bottle recycling. So, why are they just about as likely as those in Node 4 to always use kerbside bottle recycling?

In order to answer this question, we need to conduct further analysis. It is important to note that, while segmentation is a very useful tool on its own, it should also be treated as a springboard to further analysis by shedding light on different areas to explore. For example, if we then run some further analysis of respondents in Node 6, we find that that 80% own/mortgage their home or rent from the council/local authority. This is a strong indication that tenure also plays an important role as a predictor of kerbside bottle recycling usage. People who own/mortgage their home or rent from the council/local authority tend to live in their home for a longer period of time and have more security compared to other forms of tenure. This in turn suggests that these respondents may find it easier to engage in the recycling routine and/or be more willing to create storage space for bottles between collections. Or is it that these properties tend to be slightly larger/have more storage space in the first place?

This is just a brief example of how segmentation works using one technique. However, there are a number of other techniques which can be used to segment respondents, each of which does so in a slightly different way. These include hierarchical clustering, partitioning clustering and two-way clustering.

How can segmentation be used in social research?

Similar to commercial marketing, segmentation can help social marketing campaigns target specific messages at different groups of people, especially in raising awareness or encouraging behaviour change.

Segmentation can also be helpful in identifying service users' needs, which in turn can help to target provision more effectively. Again, using the above example, service providers can see that more needs to be done to help those who do not live in detached or semi-detached houses to recycle their bottles. This could perhaps be achieved by looking at ways of increasing storage capacity in and around households or providing more frequent collections.

Segmentation is a very useful tool for social researchers because it can provide a much deeper understanding of survey data and also be valuable in highlighting areas for further analysis. As an analysis tool, it complements more established methods well and is a very useful addition to the social researcher's armoury.

Predictably irrational

Everyone is human and occasionally we recognise it: we see the contradictory and deeply irrational things that we and other humans do, we revel in the foolishness gathered up by YouTube. So we laugh at the irrationality, post it on Facebook and email it to our friends. But in truth, we don't like rationality much either. Well, not too much of it. Too much makes a person a robot, an automaton. Think Spock or the Terminator, amusing or frightening because of their excessive, unstoppable rationality.

In spite of that, in our day jobs we are convinced of the fundamentals of human rationality. Policy depends on it – if we pull the right levers, provide the right information, increase prices here, reduce them there, people will respond rationally and behaviour will follow. And when behaviour doesn't follow? Well, the levers must have been wrong, the information wrongly targeted or the price adjustment too little. The fundamental belief in Adam Smith's "rational economic man" is unchallenged.

Elsewhere in this issue, we look at models developed to understand, measure and evaluate our efforts at behavioural change. It's all very logical. But what kind of mess would we be in if people weren't rational at all?

In his book *Predictably Irrational*, Dan Ariely carefully dismantles anything you ever thought you knew about how people think and what influences behaviour. At first glance, the questions don't seem earth-shattering: how did Starbucks convince us that it was sensible to pay £2.50 for a cup of coffee? Some of them are intriguing: why do people subconsciously reminded of old age walk more slowly than people who aren't? Others are just scary: people cannot predict their own behaviour and extreme behaviours they wouldn't consider when they are cold and calm become possible and even attractive when they are 'hot' – agitated, angry or aroused.

Ariely's goal is to understand decision-making and why people's decisions are so often not based on a rational analysis of needs and wants or costs and benefits, but habitual choices, anchored in arbitrary initial decisions, judged relative to alternatives and manipulated by politicians and marketers. Good intentions figured out when we are calm are subverted by emotions.

But what does it tell us that we can use in research? First, and fundamentally, that people often do not know themselves and will struggle to explain past or anticipate future behaviour. Nevertheless, based on Ariely's research, they will dutifully answer questions about these topics, reporting what a rational person would (should) say.

Second, and in spite of the evidence, people believe that they are rational and will construct a rational framework to explain emotional decisions. However, when they are in an emotional situation – in a pub with friends having another when they've already had enough or when they're scared by another driver cutting them up – rationality flies away and emotions take over. There's little to be gained asking about 'hot' behaviour in a 'cold' situation. Third, people are more strongly influenced by subconscious triggers than they recognise and will adapt their behaviour and responses based on those triggers. Survey questions need to be thoroughly scrutinised for words that might trigger particular biases.

Fourth, people are influenced by price but irrationally influenced by 'free'. This suggests that even apparently simple questions about importance or priorities will be distorted unless the cost of achieving them is part of the equation. Ariely demonstrates the different choices people make when even a nominal cost is involved yet researchers often ask people to 'choose' or prioritise with no consideration of costs.

In a similar vein, Ariely shows how we over-value what we own because we have established emotional bonds and how we over-value characteristics we (think we) possess and understate our deficiencies. Everyone is a better driver than average, everyone could drink less but it is someone else's drinking that is problematic, everyone could exercise more but it is someone else who doesn't exercise enough.

The main delight in the book is seeing the façade of rationality stripped away by some deceptively simple examples and experiments. Ariely doesn't suggest how to fix these problems at anything other than an individual level – being aware of your own irrationality and guarding against the effects – and the book isn't focused on research. For researchers and policy makers, it adds a new layer of thought and complexity to research and questionnaire design. But the problem it creates also makes for an interesting challenge and a researcher's life dealing with the problems Ariely presents seems more fun than one without it. It's a well-written book so if you fancy having your world inverted at the same time as having an enjoyable read, it's to be recommended.