

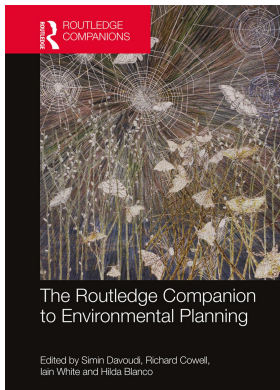
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Sustainable behaviour and environmental practices

Erin Roberts

There are a myriad of ways of conceptualising human behaviour and pro-environmental action within the social sciences, which map on to wider debates about the nature of social change. These can be categorised into two broad groups that are seemingly at odds with one another; at one end lies agency, also known as the cognitive paradigm, and at the other lies the contextual or structural paradigm (Burgess et al., 2003). While this chapter has been organised to reflect ongoing debates within the social sciences, it is important to consider that within each paradigm, interpretations of structure/agency vary widely. It is therefore more useful to think of the distinction not as a dichotomy but rather as a continuum along which various approaches can be plotted according to whether they are more or less structural/agentive. In what is to follow, this chapter will provide a brief overview of each paradigm, highlighting their relative strengths and weaknesses in relation to furthering our understanding of pro-environmental action. The chapter will then explore a relatively new, practice-based paradigm, which has garnered much interest over the last fifteen years for its promise of overcoming the structure/agency debate by inhabiting the ‘middle-ground’.

The cognitive paradigm

Descended from neoclassical economic theory, cognitive perspectives are underpinned by the belief that people behave in a rational and consistent manner, thus agency resides firmly with the individual. Often dubbed ‘rational choice’ or ‘expectancy-value’ (EV) theories, such perspectives view individuals as ‘utility maximisers’ who calculate the costs and benefits of available choices, and act in ways that are optimal to them. Jackson (2011) illustrates this process in the example of a person deciding to travel to work by car, which largely rests upon the person’s expectations that the journey will be cheaper and shorter by car than by public transport, and their positive evaluation of those outcomes. In order to make rational, utility-maximising decisions, people are assumed to be in receipt of complete or perfect information about the costs, benefits and impact of their actions (Jackson, 2005).

The notion of rational choice underpins numerous communicative campaigns devised by policy makers across Europe to fill a perceived ‘information vacuum’ among the population, which is expected to translate into pro-environmental action (Wilhite and Ling, 1995).

However, evidence from empirical studies has shown that greater awareness and concern about environmental degradation does not necessarily lead to pro-environmental action. This discrepancy has been called the ‘value-action gap’ (Blake, 1999), and numerous theoretical frameworks have since sought to explain it. In particular, a range of ‘adjusted’ social-psychological models have attempted to go beyond basic assumptions of rational choice by linking attitudes, values, morals or norms to individual behaviour.

One grouping of such ‘adjusted’ EV models are dubbed ‘attitude-behaviour’ or ABC models, which have long dominated social-psychological approaches of explaining pro-environmental action. The attitudinal component of these models is, however, heavily based on earlier *rational choice* calculations, in that an individual’s beliefs about behavioural outcomes, and their evaluation of those outcomes are believed to determine their attitude towards a given behaviour. Bridging the gap between an individual’s attitudes and behaviour is *behavioural intention*, which is the direct precursor of behaviour. Later models based on EV theory carried on this trend of including additional variables and, as they became more ‘adjusted’, so the relative influence of attitudes in predicting behavioural outcomes declined (Darnton, 2008). This pattern can be seen in Ajzen’s (1991) ‘Theory of Planned Behaviour’ (TPB – see Figure 14.1), one of the most widely-used of these models, which incorporates an additional independent variable in the form of *perceived behavioural control*, that is the extent to which an individual perceives a given behaviour to be difficult to perform. To date, the TPB has been widely adopted to predict a variety of environmentally significant behaviours, including: car use (Bamberg and Schmidt, 2003), public transport use (Heath and Gifford, 2002), recycling and waste disposal (Mannetti et al., 2004) and domestic energy conservation (Harland et al., 1999). Many of these studies, however, tend not to measure behavioural outcomes, as their main focus lies in measuring the relationship between attitudes, intentions and perceived behavioural control (Jackson, 2005).

While attitude-behaviour models focus on the cognitive deliberation of information, another group of models focus more on the role of normative factors (i.e. morals and social norms) in shaping pro-environmental decision making. Norms-based approaches assert that it is through social comparison that people validate the correctness of their opinions and decisions, which in turn influences their behaviour (van der Linden, 2014). For example, in the context of energy consumption, people often alter their consumption patterns when provided with normative information about their neighbourhood average home energy use to conform to the in-group norm (Schultz et al., 2007).

Norm-based models usually distinguish between two types of norm: descriptive and injunctive (Cialdini et al., 1990). A descriptive norm is based on an individual’s perception of what

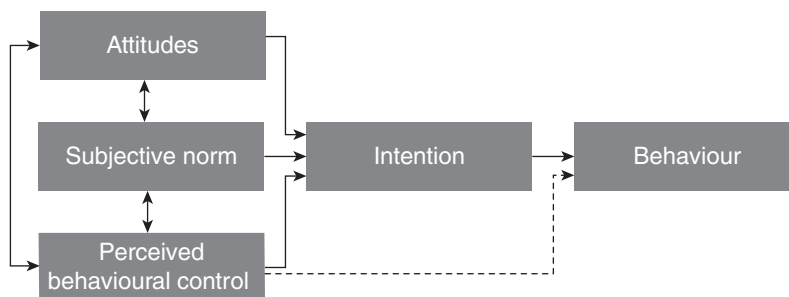


Figure 14.1 Theory of planned behaviour

Source: redrawn by author from Ajzen (1991, p. 182)

other people actually do, while an injunctive norm refers to an individual's perception of whether a given behaviour is socially approved within their culture. Descriptive and injunctive norms affect intentions and behaviour independently; therefore, understanding the relationship between these two concepts is vital for communicating social information. To illustrate, van der Linden (2014), gives the example of a communication campaign seeking to reduce frequent flying; if campaign materials merely state that CO₂ emissions are on the rise because people commonly choose to fly short distances rather than use alternatives (a descriptive norm), it is unlikely that they will have the desired effect given that it does not necessarily communicate that such behaviour is undesirable (an injunctive norm). Rather than discouraging this sort of behaviour, the message that is conveyed could easily be misread as: 'it's okay because everyone's doing it' (van der Linden 2014, p. 23). For communication campaigns to be effective then, descriptive and injunctive norms must align.

In addition to social norms, moral norms – which refer to the idea that some behaviours are inherently 'right' or 'wrong' regardless of their social consequences – are also believed to be important predictors of altruistic and pro-environmental behaviours. Social and moral norms are closely linked, as social and cultural learning play an important role in shaping moral beliefs (van der Linden, 2014). We learn what is right and wrong from those around us, and over time, these ideas are internalised and become personal or moral norms. Even though their origins lie in social norms, personal norms exercise influence over behaviour independently, and are believed to play an important role in the prediction of behaviours with a moral or ethical component, such as pro-environmental action (White et al., 2009). Steg and Vlek (2009) distinguish between three specific lines of research: those that are concerned with the value-basis of environmental beliefs and behaviour (for example, 'Value Theory'); those that have focused on the role of environmental concern (for example, 'New Environmental Paradigm'); and those that focus on moral obligations to act pro-environmentally (for example, 'Norm Activation Theory'). A particularly influential framework that combines the insights from all three lines of research is Stern and colleagues' (1999) 'Value-Belief-Norm' (VBN) theory.

While the VBN theory can explain relatively 'low cost' environmental behaviour and 'good intentions' such as willingness to change behaviour (Stern et al., 1999), its explanatory power weakens when in situations characterised by high behavioural costs or strong constraints on behaviour, such as reducing car use (Steg and Vlek, 2009). This suggests that behaviour does not result from internal processes alone, and that situational and contextual factors also have a role to play.

In light of the perceived shortcomings of earlier models, some researchers within the cognitive paradigm have sought to identify contextual and situational variables that disrupt the assumed linear transition from attitudes/values to behaviour. Within this literature, context has come to mean a variety of things; some take context to mean an individual's social network (for example, Olli et al., 2001), while others take it to mean facilitating conditions, such as the provision of recycling facilities, or the availability of public transport services for example (for example, Martin et al., 2006). In each case, contextual or situational variables have been shown to play a significant role in enabling or constraining individuals' pro-environmental behaviours (Steg, 2008).

As summarised in Table 14.1, cognitive models have added numerous determinants to explain pro-environmental behaviours and, in so doing, have gradually become more complex over time. However, due to their underlying assumptions regarding the nature of human action, the majority exhibit a degree of linearity.¹ Despite the evidence and growing recognition that contextual variables are important in shaping pro-environmental behaviour, the majority of social-psychological models continue to attribute variances in behaviour to predominantly dispositional factors. The narrow focus on attitudes or motivations in the theories above also blinds them to the role of non-deliberative influences, such as habit, in shaping behaviour. Human

Table 14.1 Major cognitive models

EV models	Expectancy-Value Theory/ Model(s)	This theory asserts that individuals behave in a predictable manner in which they prioritise their own self-interest through calculative action. Decision making involves <i>expectations</i> about a given behaviour and the <i>evaluation</i> of potential outcomes.
ABC	Attitude-Behaviour-Choice Model(s)	Similar to EV theory, this theory asserts that an individual's <i>attitudes</i> predict particular <i>behaviours</i> which they have <i>chosen</i> to adopt.
TPB	Theory of Planned Behaviour	This theory expands on earlier adjusted EV theories by asserting that behaviour can be predicted by behavioural intention and perceived behavioural control.
VBN	Value-Belief-Norm Theory	This theory proposes that personal norms are the direct antecedents of pro-environmental behaviour, which arise from beliefs regarding the individual's awareness of the consequences of their actions, and their feelings of personal responsibility for those consequences. In this theory, personal norms are dependent on more specific belief structures about human-environment relations, which are in turn dependent upon a relatively stable set of personal values.

behaviour is rarely the product of solely deliberative processes, which is why such models are often unable to fully explain pro-environmental behaviour.

The contextual paradigm

Within contextual approaches, individual agency is framed and constrained by external structures, which include: rules and standards that guide social behaviour, cultural norms and expectations, institutions, infrastructures and other material manifestations of social life (Jackson, 2005). In terms of illustrating this perspective's understanding of pro-environmental action, the most relevant lines of inquiry are studies of consumption and complementary strands of research on the coevolution of socio-technical systems and conventions of normality.

Since the mid-1980s, studies of consumption have been concerned with questions of identity and its related problematics, resulting in a focus on the communicative and symbolic aspects of consumption. However, more recent work suggests that the conspicuous and symbolic aspects of consumption have been grossly overemphasised, given that a great deal of everyday consumption is inconspicuous in nature, as part of the ordinary, mundane routines of millions of households (Gronow and Warde, 2001). These repetitive actions require little conscious thought and reflection, and are influenced not by cultural preferences and identity but by convenience, habit, practice, social norms and institutional contexts (Jackson, 2005). Much of our everyday consumption choices are thus rendered invisible – both to our peers and to ourselves – by these habitual routines.

Willhite and Lutzenhiser (1999) identify four clearly relevant and interrelated social dynamics that they believe play a significant role in shaping pro-environmental action. The first of these relates to the *embeddedness of consumption patterns*, where they argue that people are compelled to consume in the conditions of late capitalism given that 'the entire social fabric is constructed

in such a way as to encourage the association of consumption with the good life' (Wilhite and Lutzenhiser, 1999, p. 285). Lifestyles based on the logic of consumerism are thus, according to Evans and Jackson (2008), characterised by high levels of economic consumption, which translates into high levels of material consumption and accelerating environmental degradation.

A second social dynamic, and closely linked to the first, is that of *status marking and display*. Here, Wilhite and Lutzenhiser assert that an individual's standing in the community is displayed through culturally-appropriate arrangements of items that allow the person to differentiate themselves. This is often termed a process of 'distinction' in which class boundaries are defined and maintained through the display of tastes (i.e. cultural preferences) that are learned early in life, and which inform different life-styles (Bourdieu, 1984). The role of 'conspicuous' modes of consumption in the process of social stratification has long been recognised in the social sciences. While the use of material goods in the expression of culture and self-identity continues to be important, contemporary scholars now believe that in the conditions of late capitalism, pluralism has supplanted any hierarchical system of judgement (Shove and Warde, 2002). In this view, products and lifestyles are imbued with social meanings that vary both across and within each society (Wilhite and Lutzenhiser, 1999). While appropriating and using status-enhancing goods and services is a key component of modern consumerist lifestyles, a range of contemporary social movements concerned with ethical, 'green' or sustainable consumption go against the grain (Hards, 2013). By only consuming certain products (for example, local or organic food) and rejecting others (for example, mobile phones, computers and cars), individuals who ascribe to the values promoted by these social movements set themselves apart through their practices of 'green distinction' (Horton, 2003), 'conspicuous conservation' (Sexton and Sexton, 2011) or 'positional non-consumption' (Hards, 2013). Along with this plurality of taste and lifestyles, it has been argued by Shove and Warde (2002) that a rise in cultural 'omnivorousness' – described as an openness to appreciating everything – has significant implications in terms of the volume of goods consumed, thereby increasing the demand on finite resources and energy.

Wilhite and Lutzenhiser identify the dynamics of *sociality and conventionality* as a third driver of escalating resource consumption. They assert that in all cultures, people expect their social interactions to take place in certain ways; they understand what social conventions are and how they are expected to behave. Hards (2013), for example, asserts that conforming to expectations, or upholding the appearance of normality, plays a significant role in managing stigma-risk (in terms of mockery and embarrassment) – particularly in the presence of guests. Hards' contentions are not only supported by her own empirical work on energy consumption but also connect to insights from studies elsewhere; for example, in Scandinavia, for a guest to imply that they are cold constitutes a 'social crisis' for the host (Wilhite and Lutzenhiser, 1999), similarly those with cold homes in Britain are likely to be judged as stingy, poor or miserly (Hitchings and Day, 2011). Further cross-cultural empirical studies on space heating/cooling (Wilhite et al., 1996) and lighting (Linnet, 2011) have also demonstrated how resource demand is socially and culturally contingent. It has thus been suggested that living a worthwhile life in the conditions of late capitalism requires an ever-greater bundle of goods and services to meet the minimum standard (Jackson, 2011).

Security and convenience is the last of the social dynamics identified by Wilhite and Lutzenhiser. They argue that in contemporary lifestyles, convenience is one of the most important determinants of purchase and use patterns. For some, the turn to convenience is linked to the progressive erosion of collective spatiotemporal rhythms (Giddens, 1991), which has resulted in the commonly held perception that 'the pace of daily life is accelerating and that there is an increasing shortage of time' (Southerton, 2003, p. 6). Indeed, people have multiple competing demands on their time, which often leads to feelings of being rushed by a perceived

time-squeeze (Southerton, 2003). Where people feel that they have insufficient time to accomplish things that are important to them, saving time through convenience becomes a matter of concern (Shove, 2003). A complementary but more defensive view of consumption focuses more on catering to just-in-case scenarios (Shove and Warde, 2002). According to Wilhite and Lutzenhiser, the over-dimensioning of objects, devices and appliances has to be understood in terms of risk management against an uncertain future. For example, having a large refrigerator that can hold a lot of food can accommodate unexpected visitors and reduce the frequency of shopping trips. They go on to argue that by consistently choosing oversized goods and devices, consumers redefine what is considered 'normal', and as standards gradually increase, so does resource/energy demand.

A linked body of literature, predominantly drawn from science and technology studies (STS), pays attention to how technologies and infrastructures shape our ability to act in certain ways. From this perspective, cultural conventions and systems of provision co-evolve in a process of socio-technical change that 'locks us in' to increasingly resource intensive consumption trajectories. Research conducted by Elizabeth Shove (2003) illustrates this by using the notion of 'comfort' in relation to the development of air conditioning systems; highlighting the mutually reinforcing developments in scientific classifications of what constitutes 'comfortable' indoor temperatures, building design and people's expectations of comfort. Such studies have, through a focus on socio-technical processes, explored 'how expectations and practices change, at what rate, and in what direction, and with what consequence for the consumption of environmentally critical resources such as energy and water' (Shove, 2003, p. 16).

Implicit within interpretation of the STS literature is the assumption that successful intervention within socio-technical systems results in change. However, introducing new rules or infrastructures does not necessarily create new practices, as socio-technical systems are not easily steered (Shove and Walker, 2007). Assuming that innovation leads to increased consumer demand, and consequently a system change, is therefore over simplistic (Shove, 2003). For example, studies tracing the historical emergence of showering as a popular activity demonstrate that despite having access to reliable water and electricity sources, showering remained unpopular for a long time (Southerton et al., 2004). Gradually, showering was accepted as it became associated with speed, convenience and conceptions of health and social respectability (Southerton et al., 2004, pp. 43–5).

Within this literature, agency is distributed throughout the socio-technical system, rather than residing purely with individuals. Consumption practices develop historically, informed by technological innovation, social contexts, and the temporal demands of everyday life, indicating how socio-technical systems mould the carbon intensity of social life in dynamic and complex ways.

Much like their cognitive counterparts however, contextual perspectives have been subject to much criticism, albeit for the opposite reasons. While cognitive approaches have been critiqued for their relative simplicity and linearity, contextual approaches have been accused of overstating the importance of structures in guiding everyday life. The ongoing structure-agency debate has since resulted in calls for alternative theoretical perspectives that acknowledge and account for the roles of both cognitive and contextual aspects in shaping pro-environmental action.

The practice paradigm

Among those that are keen to move beyond the agency-structure dualism, theories of social practice have offered an alternative, and increasingly popular, approach to understanding pro-environmental action. The plural is used to signify the diversity within this loosely connected group of theories, as there is no single, unified practice approach; instead, there are a variety of approaches that are united by some common ideas.

For practice theorists, the practical carrying out of social life takes centre stage. Giddens outlined the basic premise of the practice approach when he stated that ‘the basic domain of study . . . is neither the experience of the individual actor, nor the existence of any form of societal totality, but social practices ordered across space and time’ (Giddens, 1984, p. 2). In this view, our everyday actions are not seen as the result of people’s attitudes, values and beliefs, nor are they believed to be shaped by structures and institutions; instead, they are understood to be embedded within and occurring as part of social practices (Hargreaves, 2011).

A practice can be seen as the coming together of interconnected elements to form a routinised pattern or ‘block’ of activity (Reckwitz, 2002). For Reckwitz, practices contain within them forms of bodily and mental knowledge that are embodied within practitioners, who, through performance, perpetuate and potentially transform the practices that they ‘carry’. As such, there is a recursive relation between recognisable doings that are relatively stable (practice-as-entity) and the carrying out of a practice (practice-as-performance), in which people – through their embodied actions, and their knowledge and understanding about those actions – play a key role as carriers and performers of practice.

Along with the aforementioned embodied components, Reckwitz’ (2002) description gives materials or ‘things’ a key role in the performance of practices. In developing his own ‘ideal type’ of practice theory, Reckwitz argued that earlier practice theorists had not adequately accounted for the material dimension of social practices. This inclusion of the material dimension is regarded as pertinent by later practice theorists, given the explosion of technical artefacts (for example, computers, mobile phones, and tablets) in contemporary society (Spaargaren, 2006). Within this conceptualisation, materials, things, technologies and infrastructures are conceptualised as active elements of practice in their own right. This has been of key importance to the development of practice theories as we know them today, and in particular, their application to studies of consumption. Practices are thus not purely social, given that much of social life is intertwined with material infrastructures, devices and artefacts that configure and co-constitute much of what we do (Shove, 2003).

Despite its usefulness, the above formulation of practice is difficult to apply empirically (Spaargaren, 2006). Shove and colleagues (2012), however, provide a somewhat more straightforward conceptualisation of practice, which is comprised of only three elements – meanings, materials and competencies – which can be seen in Figure 14.2.

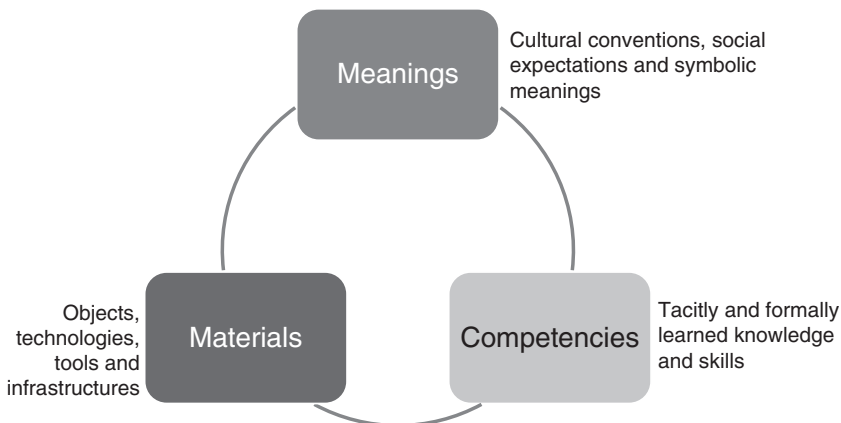


Figure 14.2 The three elements of social practice theory

Source: redrawn by author from Shove et al. (2012, p. 23)

To demonstrate this model at work, an illustrative example of an everyday practice will be used; cooking. The material element of cooking practices includes appliances and equipment (for example, oven, grill, hobs, microwave, food processor), consumables (for example, recipes, fruit and vegetables, meat and dairy) and domestic infrastructures (for example, plumbing and electrics). Knowledge of how to prepare food is also needed (competencies), and the necessary skills include basic knife skills and possessing knowledge about hygienic food preparation as well as how to operate appliances and equipment. Finally, these skills are intrinsically linked to cultural conventions of taking care of oneself and others (meanings), along with the related notions of convenience and health, which have gradually led to increases in resource consumption over time (see Shove, 2003). These elements are linked together by individuals when carrying out a practice. While cooking is a widely shared practice, however, not everyone cooks in the same way; practices are internally differentiated according to the particular configurations of different materials, meanings and competencies at hand (Warde, 2005).

The tendency to view individuals as merely the ‘carriers’ of practice has also garnered criticism. Sayer (2013), for example, argues that conceptualising the role of individuals in this way ignores their ‘dynamic, normative or evaluative relation to practices’, thus rendering them no more than ‘passive’ dupes (Sayer, 2013, p. 170). The use of shared practices as a unit of analysis has been another subject of criticism. Despite the focus on collective conventions, some forms of social interaction are under-studied and under-theorised in practice theories (Henwood et al., 2015; Warde, 2005). For example, little attention has been paid to how practices are transmitted between individuals, or how they are negotiated and performed in specific situations (Hargreaves, 2011). Finally, it seems that practice theory’s complexity is both a strength and a weakness. Sahakian and Wilhite (2014), for example, argue that while practice theory offers a rich terrain of study, its complexity – even in its simplified three elements form – makes it decidedly harder to put the theory into practice in policy making.

Conclusion

This chapter has provided a brief overview of the various ways in which human action has been conceptualised within the social sciences. These were structured into three broad groups – cognitive, contextual and practice paradigms – highlighting the diversity of perspectives that researchers can call upon when examining sustainable behaviour and pro-environmental action. Despite this diversity however, policy makers largely focus on policy instruments aimed at influencing individual behaviour change to shape the transition to a more sustainable society. Such policy mechanisms are not always successful, however, given that they are underpinned by notions of rational choice that have been argued by proponents of the contextual (and indeed, some proponents of the cognitive) perspective to be overly simplistic. While the cognitive paradigm has been criticised for its relatively linear understanding of behaviour, the contextual paradigm has likewise been criticised for giving too much credence to social structure in the shaping of human action. In light of this ongoing debate, other perspectives such as practice theory have garnered much attention from academics and policy makers alike. Its complexity, however, has made it difficult to implement in policy making. This is not to say that such a perspective is not useful; practice theory’s strength lies in its capacity to demonstrate how more or less sustainable practices take hold and persist over time (or not), and its ability to illustrate why certain policy instruments may not be successful.

Note

- 1 With the exception of those models such as the ‘Theory of Interpersonal Behaviour’ that recognise non-deliberative action.

References

- Ajzen, I. (1991). 'The theory of planned behavior'. *Organizational Behavior and Human Decision Processes*, 50(2): 179–211.
- Bamberg, S. and Schmidt, P. (2003). 'Incentives, morality or habit? Predicting students care use for university routes with models of Ajzen, Schwartz and Triandis'. *Environment and Behavior*, 35(2): 264–85.
- Blake, J. (1999). 'Overcoming the "value-action gap" in environmental policy: tensions between national policy and local experience'. *Local Environment: The International Journal of Justice and Sustainability*, 4(3): 257–78.
- Bourdieu, P. (1984). *Distinction: a social critique of the judgement of taste*. London: Routledge.
- Burgess, J., Bedford, T., Hobson, K., Davies, G. and Harrison, C. (2003). '(Un)sustainable consumption', in F. Berkhout, M. Leach and I. Scoones (eds.) *Negotiating environmental change: new perspectives from social science*. Cheltenham: Edward Elgar, pp 261–92.
- Cialdini, R. B., Reno, R. R. and Kallgren, C. A. (1990). 'A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places'. *Journal of Personality and Social Psychology*, 58(6): 1015–26.
- Darnton, A. (2008). *GSR behaviour change knowledge review. Reference report: an overview of behaviour change models and their uses*. London: HMT Publishing Unit.
- Evans, D. and Jackson, T. (2008). *Sustainable consumption: perspectives from social and cultural theory*. RESOLVE Working Paper 05–08. Guildford: Research Group on Lifestyles, Values and the Environment, University of Surrey.
- Giddens, A. (1984). *The constitution of society*. Cambridge: Polity Press.
- Giddens, A. (1991). *Modernity and self-identity: self and society in the late modern age*. Cambridge: Polity Press.
- Gronow, J. and Warde, A. (2001). 'Introduction', in J. Gronow and A. Warde (eds.) *Ordinary consumption*. London: Routledge, pp 1–8.
- Hards, S. K. (2013). 'Status, stigma and energy practices in the home'. *Local Environment*, 18(4): 438–54.
- Hargreaves, T. (2011). 'Practice-ing behaviour change: applying social practice theory to pro-environmental behaviour change'. *Journal of Consumer Culture*, 11(1): 79–99.
- Harland, P., Staats, H. and Wilke, H. A. M. (1999). 'Explaining proenvironmental intention and behavior by personal norms and the theory of planned behavior'. *Journal of Applied Social Psychology*, 29(1): 2505–28.
- Heath, Y. and Gifford, R. (2002). 'Extending the theory of planned behavior: predicting the use of public transportation'. *Journal of Applied Social Psychology*, 32(10): 2154–89.
- Henwood, K., Pidgeon, N., Groves, C., Shirani, F., Butler, C. and Parkhill, K. (2015). 'Energy Biographies research report'. *Energy Biographies*. Available at: <http://energybiographies.org/our-work/our-findings/reports/>
- Hitchings, R. and Day, R. (2011). 'How older people relate to the private winter warmth practices of their peers and why we should be interested'. *Environment and Planning A*, 43(10): 2452–67.
- Horton, D. (2003). 'Green distinctions: the performance of identity among environmental activists'. *The Sociological Review*, 51(2): 63–77.
- Jackson, T. (2005). *Motivating sustainable consumption: a review of evidence on consumer behaviour and behavioural change*. ESRC Sustainable Technologies Programme. Guildford: University of Surrey.
- Jackson, T. (2011). 'Confronting consumption: challenges for economics and for policy', in S. Dietz, J. Michie and C. Oughton (eds.) *Political economy of the environment*. London: Routledge, pp 189–212.
- Linnet, J. T. (2011). 'Money can't buy me hygge: Danish middle-class consumption, egalitarianism and the sanctity of inner space'. *Social Analysis*, 55(2): 21–44.
- Mannetti, L., Pierro, A. and Stefano, L. (2004). 'Recycling: planned and self-expressive behaviour'. *Journal of Environmental Psychology*, 24(2): 227–36.
- Martin, M., Williams, I. D. and Clark, M. (2006). 'Social, cultural and structural influences on household waste recycling: a case study'. *Resources, Conservation and Recycling*, 48(4): 357–95.
- Olli, E., Grendstad, G. and Wollebaek, D. (2001). 'Correlates of environmental behaviors'. *Environment and Behavior*, 33(3): 191–208.
- Reckwitz, A. (2002). 'Towards a theory of social practices: a development in culturalist theorizing'. *European Journal of Social Theory*, 5(2): 243–62.
- Sahakian, M. and Wilhite, H. (2014). 'Making practice theory practicable: towards more sustainable forms of consumption'. *Journal of Consumer Culture*, 14(1): 25–44.
- Sayer, A. (2013). 'Power, sustainability and well being: an outsider's view', in E. Shove and N. Spurling (eds.) *Sustainable practice: social theory and climate change*. London: Routledge, pp 183–96.

- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J. and Griskevicius, V. (2007). 'The constructive, destructive, and reconstructive power of social norms'. *Psychological Science*, 18(5): 429–34.
- Sexton, S. E. and Sexton, A. (2011). *Conspicuous conservation: the Pirus effect and willingness to pay for environmental bona fides*. Unpublished Paper. Available at: <http://works.bepress.com/sexton/11/>
- Shove, E. (2003). *Comfort, cleanliness and convenience: the social organization of normality*. Oxford: Berg.
- Shove, E., Pantzar, M. and Watson, M. (2012). *The dynamics of social practice: everyday life and how it changes*. London: Sage.
- Shove, E. and Walker, F. (2007). 'CAUTION! Transitions ahead: politics, practice and sustainable transition management'. *Environment and Planning A*, 39(4): 763–70.
- Shove, E. and Warde, A. (2002). 'Inconspicuous consumption: the sociology of consumption, lifestyles and the environment', in R. Dunlap, F. Buttel, P. Dickens and A. Gijswijt (eds.) *Sociological theory and the environment: classical foundations, contemporary insights*. Lanham, MD: Rowman and Littlefield, pp 230–51.
- Southerton, D. (2003). 'Squeezing time: allocating practices, coordinating networks and scheduling society'. *Time and Society*, 12(1): 5–25.
- Southerton, D., Warde, A. and Hand, M. (2004). 'The limited autonomy of the consumer: implications for sustainable consumption', in D. Southerton, H. Chappells and B. Van Vliet (eds.) *Sustainable consumption: the implications of changing infrastructures of provision*. Cheltenham: Edward Elgar, pp 32–48.
- Spaargaren, G. (2006). *The ecological modernization of social practices at the consumption junction*. Paper presented at the ISA-RC-24 conference Sustainable Consumption and Society, 2–3 June 2006, Madison, Wisconsin.
- Steg, L. (2008). 'Promoting household energy conservation'. *Energy Policy*, 36(12): 4449–53.
- Steg, L. and Vlek, C. (2009). 'Encouraging pro-environmental behaviour: an integrative review and research agenda'. *Journal of Environmental Psychology*, 29: 309–17.
- Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A. and Kalof, L. (1999). 'A value-belief-norm theory of support for social movements: the case of environmentalism'. *Human Ecology Review*, 6(2): 81–97.
- van der Linden, S. (2014). 'Towards a new model for communicating climate change', in S. Cohen, J. Higham, P. Peeters and S. Gössling (eds.) *Understanding and governing sustainable tourism mobility: psychological and behavioural approaches*. London: Routledge, pp 243–75.
- Warde, A. (2005). 'Consumption and theories of practice'. *Journal of Consumer Culture*, 5(2): 131–53.
- White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H. and McKimmie, B. M. (2009). 'Social influence in the theory of planned behaviour: the role of descriptive, injunctive, and ingroup norms'. *British Journal of Social Psychology*, 48(1): 135–58.
- Wilhite, H. and Ling, R. (1995). 'Measured energy savings from a more informative energy bill'. *Energy and Buildings*, 22(2): 145–55.
- Wilhite, H. and Lutzenhiser, L. (1999). 'Social loading and sustainable consumption'. *Advances in Consumer Research*, 26(1): 281–7.
- Wilhite, H., Nakagami, H., Masuda, T., Yamaga, Y. and Haneda, H. (1996). 'A cross-cultural analysis of household energy use behaviour in Japan and Norway'. *Energy Policy*, 24(9): 795–803.