
Method as Intervention: *Intervening in practice through quantitative and mixed methodologies.*

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mixed quantitative and qualitative methods to investigate water and energy use in the home.
Abstract

This chapter ‘Method as Intervention’ outlines the importance of playing (ontological) politics with method. It reflects on the potential for theories of practice, actualised in quantitative survey and mixed methodologies, to redefine the political commitments of resource industries such as the UK water sector. The survey focused on the diversity and patterns of practice, and shifted the unit of analysis from people to practice. The analysis and discussion shows how methods can be used as intervention to retell familiar theoretical stories, reveal new understandings of practice, redefine political agendas, and develop resources to evidence the utility of theories of practice to intervening in sustainability and consumption.

Introduction

“If methods are not innocent then they are also political. They help to make realities. But the question is: which realities? Which do we want to help to make more real, and which less real? How do we want to interfere (because interfere we will, one way or another)?” (Law and Urry, 2004, p. 404)

As Law & Urry (2004) reflect methods matter. The enactment of methodology is inherently one of performance – we make (multiple) realities, we make those realities real or less real, and as such intervene in political and social worlds. This chapter reflects on how expanding the range of methods used to actualise theories of practice can be a form of interference and intervention. By using new methods to disturb the
relatively unexamined way that the ‘consumer’ and their resource consumption is represented in policy worlds, research methods do not only disturb what is ‘known’, but reveal new political realities and possibilities. This process of revealing the multiplicity of ways of representing social phenomenon, and then enacting different ways of knowing into a political space is what is referred to as ontological politics (Mol, 1999). In this paper we argue that the use of quantitative and mixed methodologies that reflect practices (as performance, and entities) disturbs the dominant way that the resource industries and related political spaces represent the consumer. However, we also argue that such a use of research methods creates an alternative politic about, and instrumentation of, processes of consumption as represented through theories of practice.

These reflections about the ontological politics of method centre on the mixed methodological approach we developed to explore domestic water demand, namely, a quantitative survey to capture the diversity and patterns of everyday practice and qualitative interviews. Our mixed method approach, combined with extensive stakeholder engagement, became our ontological politics and intervention. We argue these methodological decisions shifted the debate with key stakeholder groups from epistemology (where what is known depends on perspective) to ontology (where what is known is made different). Playing politics with methods, we argue, will assist social scientists working on practice and sustainability to overcome the epistemological debates of the ‘ABC’ (attitudes, behaviour, choice) versus ‘practice’ (eg., Shove, 2010, Whitmarsh et al., 2011) and allow different ontological realities to be brought into political space (Law, 2009).
Ontological politics matter in sustainability and sustainable consumption. Ontological politics are particularly important in social policy contexts increasingly focused on ‘evidence’. The evidence based policy approach of the UK is held up internationally as ‘best practice’ (Boaz et al., 2008, Cabinet Office, 2013, Levitt et al., 2010). Simultaneously, the idea of the rational consumer has grown in policy and academia as the supposed panacea for sustainability crises worldwide. In these particular ontological realities, also defined as weak versions of sustainable consumption (Hobson, 2013), the behaviours of the rational consumer are seen to be easily changed by focusing on resource costing, resource efficiency, technological innovation, and education interventions. These interventions are readily actionable into experimentalist methods – such as random control trials – that gather statistical evidence of the linear or mediated impact of intervention on behaviour change to inform current and future policy. This is particularly evident in our substantive area of interest - water demand in the UK.

In the water industry consumer behaviour is represented, modelled and projected as an aggregate of the OVF – ownership, volume and frequency of use – of technologies plus socio-demographic and household characteristics (McDonald et al., 2011). ‘ABC’ approaches of economics and psychology dominant water management despite an increased recognition of the attitude/behaviour gap in the academic and grey literatures (Waterwise, 2011b, Russell and Fielding, 2010). Encouragingly, there are alternative ways of knowing that have emerged focused on deconstructing ‘myths’ of the representation of the averaged consumer in the water and resource sector (Medd and Shove, 2006, Sofoulis, 2011b), and the limitations of technology such as smart meters in intervening in the dynamics of practice and everyday life (Strengers, 2011,
Strengers, 2013). There are also alternative experimentalist agendas emerging from design, geography and related disciplines that draw on theories of practice (eg. Kuijer, 2014, Kullman, 2013, Marres, 2009).

However, despite an emerging recognition of the way existing approaches in the industry ‘skirt complexity’ and create ‘averaged’ consumers (Medd and Shove, 2006, Sofoulis, 2011b), there is still an increased push towards experimentalism in water demand and efficiency programs. This is combined with an industry wide push to increase the evidence base of intervention programs largely focused on retrofitting technology and environmental/efficiency messaging (Jordan, 2012, Waterwise, 2011a). But what is it that these programs are ‘evidencing’? When it comes to building an evidence base for water demand and efficiency, it seems the industry is invested in evidencing a priori (already existing psychological and economic) knowledge, rather than using methods to fundamentally questioning the complexities of demand and how it emerges, is maintained and is expressed in daily life.

In his article “Seeing like a Survey” John Law asked the question “So what do surveys do?” (Law, 2009). In interrogating a large European survey he asked the following questions of social science methods: What do they perform? What realities are they helping to generate? What are the results performing? What versions of the real are they helping to enact? (see pp. 243-244). Using these questions as the basis for critique of our own approach we describe a number of ways quantitative and mixed methodologies of practice can perform new ontological politics of water demand, and create new opportunities for interventions in sustainability for this and other resource sectors.
First we outline of our research aims and process. Then by focusing on the washing\(^1\), showering and bathing results from the survey and linked qualitative data, we describe how these new methodologies i) retold old stories in new ways and revealed new understandings of practice across populations, and ii) redefined the debate and created resources (evidence, methodologies) more readily integrated into current evidence based business and policy cycles. The final section then outlines the impacts of performing methodology as an intervention. It is here that the significance for sustainability emerges, if new methods which are reflective of the diversities and complexities of daily life are used to plan for, forecast, and intervene in demand rather than approaches that skirt complexity.

**Research Aims and Process: Scaling Methodologies of Practice**

Much research over the past decade has explored the emergence and maintenance of particular forms of showering, laundering, gardening and home care. The methods used in the majority of this research has been historical and archival (Trentmann, 2011, Trentmann and Taylor, 2006, Shove, 2003, Hand et al., 2005), qualitative (Sofoulis, 2011a, Stengers and Maller, 2012, Pink, 2012) or has involved the reinterpretation of already existing quantitative data sets (Medd and Shove, 2006, Warde et al., 2007). Our aim was to create a quantitative survey to capture the diversity and patterns of practice related to household water use across a geographical population in the south and south east of England, an area vulnerable to drought and water scarcity, and population change (Arnell, 1998).

\(^1\) The term ‘washing’ is often used throughout this chapter to encompass all forms of self-cleanliness whether that be bathing, showering, washing with a wash cloth (flannel wash), or ritual washing.
The interpretation of practice enacted in this project was of ‘images, skills, and stuff’ or to use an alternative phraseology ‘meanings, competences, and materials’ (Shove et al., 2012, Shove and Pantzar, 2005). In particular we wanted to focus on the moments of ‘doing’ (practice-as-performance) associated with water use in the home, and whether the dynamics of these performances and the ‘images, skills and stuff’ embedded in these recurrent performances could be reflected in descriptive and cluster analysis of quantitative survey data. However, as will be revealed through the description of the washing results, we also captured a snapshot of ‘practice-entities’, and traces at a population level for how these entities have changed, evolved and dispersed over time (Shove et al., 2012, Schatzki, 1996).

To capture the performance of practices associated with water use in the home, we developed an 1802 respondent practice questionnaire which we commissioned across the south of England in the summer of 2011. This quantitative data was then subjected to a range of descriptive and cluster analyses – focusing the unit of analysis on practices not people (see Pullinger et al., 2013 for a comprehensive description of the methodological design, sampling procedure and analytical techniques). One researcher (Browne) then conducted a series of in-depth qualitative interviews with participants who had completed the survey (n=22). While the practice based interviews provided material for the analysis of the performance of practice in their own right, they were also undertaken to enable critical reflections on the completeness of the emerging quantitative analysis.
There were 64 questions (25 minutes) used to capture the ‘images’, ‘skills’ and ‘stuff’ implicated in the performances of practices in different sites of water use in the home. These were split into: an audit of the water consuming technologies, goods and water provisioning infrastructures in people’s homes; a series of questions focused on the performance of practices associated with gardening, cleaning, personal hygiene and care (washing, showering, bathing), laundry, cooking and washing up, car cleaning; a series of questions that related to the ‘images’ associated with these performances e.g., cleanliness, comfort, convenience, ideas of outdoor space; a range of standardised socio-demographic questions; meter presence and estimate of most recent bill if metered; and a suite of environmental habits questions. The environmental habits questions in particular were included to quantitatively prove the hypothesis that environmental values and beliefs would not be strongly correlated to the patterns of practices reflected in the survey.

Using Methodology to Retell Old /Reveal New Tales

Current conceptualisations of consumer behaviour from psychological and economic literatures (e.g., Russell and Fielding, 2010) do little in the way of accounting for the rise, maintenance and disappearance of varieties of practice related to resource use in the home (as per account by Shove et al., 2012). Theories of practice go far in addressing that ‘gap’ and providing a more nuanced picture to the complexity of demand and consumption. Our research programme added a different layer of evidence to this evolving policy debate. One of the benefits of expanding the methodological repertoires of theories of practice beyond ethnography and qualitative research is that such methodologies retell familiar stories from social science of complexity and practice
in new ways. This retelling through new methodologies is a first step towards a new ontological politics.

Compelling tales have been told about the trajectories of showering and bathing in the UK such as the bath and the emergence of the ‘water consumer’ (Taylor and Trentmann, 2011), and the rise of bathing and showering linked to infrastructural and socio-temporal fabrics of daily life (Hand et al., 2005, Shove, 2003). Where previous research has charted the way showering has become ubiquitous to the majority (Hand et al., 2005), our quantitative data was able to show exactly how ubiquitous through an expression of the patterns of showering, bathing and flannel and other washing across a population.

FIGURE 1 NEAR HERE

Figure 1 reveals the combined frequency of showering and bathing across the population of south east of England. Figure 2 shows the split between the frequencies of showering as compared to bathing. Such figures reveal a powerful story of how infrastructures and cultures of cleanliness, comfort and convenience have converged to the current expression of daily, and more than daily, ‘washing’ as defining the routine of the majority. This data also challenged our own assumptions of the rise and trajectories of showering as a daily activity. The survey question was designed in a way that revealed our own (inaccurate) understanding that current routines of washing are a once-daily activity in the UK. We had assumed that not many people would report showering and/or bathing seven or more times a week and collapsed more frequent
performance into the one category of ‘seven or more times a week’. However, as Figure 1 shows, there is an emerging trend of getting wet more than once a day!

Evidence of the rise of more-than-once-daily washing could, and did, emerge from qualitative data. However, the use of the quantitative survey for these particular practice(s) revealed a level of escalation of the temporal and spatial routines of cleanliness across a population in a way that would not have been revealed through qualitative studies of the routines of practitioners which generally have a small number of participants (known as small ‘n’ studies). This societal level trend to showering or getting wet at least once daily for the majority is particularly interesting, and problematic, when considering future trajectories of practice.

The simple figures from the descriptive analysis of showering and bathing (Figures 1 & 2), when combined with the knowledge generated through previous historical studies of showering (Hand et al., 2005) enabled a discussion with stakeholders of the infrastructural, temporal and conventional changes that have occurred historically. Such a mode of enquiry facilitated a questioning and imagining of future storylines of showering in the context of changing cultural, social, infrastructural, technological and natural (climatic) conditions. This is of particular interest to the water industry who currently have to plan for, and forecast, supply-demand balances including the impacts of weather and climate change on demand with fairly crude representation of consumer practices (Butler and Memon, 2006).
Not only can quantitative analysis reveal escalation and extent of routines of cleanliness across populations, it can also reveal how routines and practices of cleanliness bundle in complex ways. The basic descriptive statistics of the quantitative survey also provided some evidence for how practices may not disappear or fossilise in the ways expected by policy makers that is, that new practices do not always simply take place of the old (Shove and Pantzar, 2006). Take the data from showering, bathing and the flannel washing\(^2\) in combination. Showering is overwhelmingly the preferred way of having a full body wash – 50% of respondents never had a bath, compared to just 17% that never had a shower. For most of those who reported having baths it was combined with showering and was an occasional event. The bath, like showering, was still used to ‘get clean’, ‘to freshen up’ but it was also much more likely than showering to be taken for other meanings of self-care such as relaxation and to ease aches and pains.

Equally, flannel washing which was most often used as a way to ‘get clean’, ‘freshen up’, ‘stop smells’ and ‘wake up’ was done in addition to, rather than instead of, bathing and showering. Only 29% of people had a flannel wash at all, although among those who did, two thirds did so at least 7 times a week. Of those who flannel washed at least seven times a week, 75% also took a bath or a shower at least seven times a week. Ways of doing cleanliness do not always simply disappear or become replaced by other ways of doing. Practices can reform in unexpected ways across the population. The example of flannel washing also reveals that fossilisation of practices need not be only material (Shove and Pantzar, 2006). Meanings and types of know-how about flannel washing - for example as a stand-alone skills of self-care and cleanliness - have fossilised even if

\(^2\)It should be noted that the category ‘flannel washing’ means washing with a flannel/washcloth, and was also included to represent any other cultural or religious variants of practices such as ritual washing.
the practice is still performed by a small number of people who have also been recruited into daily showering or bathing.

The ideas of disappearance, fossilisation, and reorganisation of the expression of practices associated with cleanliness and self-care across a population are important in regards to governance and intervention of sustainability. This type of analysis reveals the problem with interventions that promote singular ways of consumers ‘becoming sustainable’. For example, showering (with a water efficient shower head) is promoted as a more sustainable way of getting clean than taking a bath. However, new showering technologies and the recruitment to daily showering as a practice has pushed the consumption of water beyond that originally consume by taking a (presumably less frequent) bath (Critchley and Phipps, 2007).

One problem with this singular approach to intervention is that there is a lack of recognition of diversity of existing practices and that interventions to practice can create unintended consequences. This approach also assumes that one way of performing cleanliness can simply displace other ways of doing cleanliness, comfort and leisure. Our data reveals that images, skills and stuff evolve in an interconnected and ever dynamic way (Shove et al., 2012). Such evidence can unhinge and erode the ideal of singular models and pathways for sustainability, and redefine the policy agenda towards the consideration of the complexities and multiplicities of pathways and transitions towards ‘sustainability’.

Using Methodology to Redefine Agendas/Create Resources
Methodologies that segment customers and their use of water (and other resources), based on demographics and related indicators such as environmental attitudes, are becoming increasingly popular in the resource sectors (e.g., CACI, 2010, Collier et al., 2010, DEFRA, 2008, Ipsos Mori, 2007). Such approaches put the people first and, critically, rarely link through to actual practice related to water use (Waterwise, 2011b). They reinforce the idea of the average consumer, avoiding any attempts to reflect complexity, and do not attempt to resolve the attitude/behaviour gap that defines these approaches. The quantitative and mixed methodologies that were used allowed a fundamental challenge to current approaches to segmenting populations and highlighted the benefit of redefining the unit of analysis from people to practices. This section works through the cluster analysis of practices associated with water use in the home and highlights the ways in which methodology can be used to redefine the political commitments, provide evidence for new approaches, and outline a suite of methodological resources that could be used to address the more complex aspects of everyday practice.

In order to draw out common patterns of practice we conducted an extensive cluster series of analyses across all relevant social practices (Pullinger et al., 2013). For personal washing this led to the selection of six quite distinct variants of practices – Simple Daily Showering, Out and About Washing, Attentive Cleaning, Low Frequency Bathing, Low Frequency Showering, and High Frequency Showering. Washing cluster membership was defined along four ‘scaled’ dimensions derived from our research questions and characterising different aspects of the elements invoked in washing. This included frequency of performance (the ‘doing’), diversity of performance (how stable a routine was to change), technology used (invoking the stuff and technology used), and
outsourcing (recognising that water use does not just occur inside the home). Each of the cluster descriptions (based on patterns in the practice) contains the dimensions that were used to conduct the cluster analysis based on scaled variables, other aspects of washing and personal care not included in the cluster analysis (such as shaving, and tooth brushing), links to questions on ‘meanings’ related to washing practices, and socio-demographic features of each of the variants of practice. In addition we were able to see which cluster these interview participants belonged to (for each site of practice), and explore the relationship between their quantitative answers and the qualitative data. Brief descriptions of the clusters are found below.

Simple Daily Showering (39% of the population) was characterised by washing every day and usually only through showers. The meanings associated with showering were more likely to be the ones more commonly reported such as cleanliness rather than relaxation or comfort. Out and About Washing (16% of the population) involved a shower at least daily, and washing was also done outside of the home for example at the gym, other people’s houses or at work. Flannel washes and other washes were also more likely to be taken. The bathrooms of these practitioners were more likely to have a power shower, and bathing routines involved a shower either before or after the bath! This group wanted to do more for the environment than they currently do. Attentive Cleaning (15% of the population) involved a shower or bath at least daily. There was a high priority on personal grooming with both showering and other sorts of personal care. The homes of these practitioners were also more likely to contain a power shower, 2 or more baths but no water meter.
There were also variants of practice that were characterised by low frequency showering and bathing. Those recruited into Low Frequency Showering (12% of the population) had routines of showering about four times a week on average, and no more than five, usually always showers not baths. Showers were less likely to be used for cleanliness, relaxation or comfort purposes. Low Frequency Showering was more likely to be performed by those that were substantially older than average (¾ being 45 or over) and more likely retired, living alone, and with more health problems. Low Frequency Bathing was similar except this 7% of the population were having baths on average 3-4 times per week. The bathrooms of these practitioners were also less likely to contain a shower or power shower. Those performing this practice were markedly older than average, generally retired. Both of these low frequency groups were less likely to want to do more to help the environment.

The final variant was High Frequency Bathing (11% of population). Getting wet every day was a feature but baths were taken instead of, rather than in addition to, showers (67% report this versus 19% of the rest of the population). These practitioners were more likely unemployed, less affluent and more likely to rent. Although recruited into a daily practice of getting wet for cleanliness, their practices may have been restricted by access to showering facilities. In the UK social or other low cost rental are more likely to contain only baths (Waterwise, 2009).

How people washed varied with age. Figure 3 shows the variation in the proportions of each age group found in each cluster. A conventional interpretation of the data is that low frequency washing is associated with older demographic groups, and high frequency washing with younger demographic groups! Although our data captures just
one period in time (and therefore cannot reflect change over time) taking theories of practice as the starting point leads to the interpretation that these results reflect both changing entities of practice, and changes across practitioners’ life course. Again this retells a familiar theoretical tale of the emergence of showering (Shove, 2003, Hand et al., 2005). But it also reveals that mixed methodologies can be used to reflect both changing entities and changing routines of practitioners across a life course.

INSERT FIGURE 3 NEAR HERE

The Low Frequency Bathing and Low Frequency Showering clusters could represent variants of washing that have been carried by the (largely older) members of this group for years echoing eras were at-least-once-daily showering was not common place (Hand et al., 2005). The Low Frequency Showering group have potentially made a switch from infrequent baths to infrequent showers as that technology became more commonplace and available, but not changed the frequency with which they washed in any way. This is unlike those that have potentially been recruited into other patterns of practice such as the simple daily shower. One of our interviewees Janet\(^3\) (female, retired, 55-64) who was part of the Low Frequency Showering cluster reflected on the issues of recruitment and reorganisation of the temporality of showering well:

“Even people of my generation, friends of mine and people I know, they've taken on this showering every day. So... I mean guess that it's just ubiquitous. Very few people I speak to, some do, I have to say that you don't talk about it a lot, but when it comes up, and I say I

\(^3\) All names are pseudonyms.
probably have two or three showers a week they’re like ‘ooooh’ and they’re quite surprised, even people of my generation!”.

As this quote reflects, many older people may have been recruited from baths to showers as technologies and images of cleanliness developed. There are also traces of low frequency routines performed by small percentages of the younger generations. However with the rise of increasingly resource intensive and hyper clean ways of washing (e.g., Out and About Showering, Attentive Cleaning both associated with younger generations see Figure 3) one can question whether these practices will continue to be transmitted to new practitioners, or slowly disappear altogether.

As well as reflecting changing entities across a population, the generational trends represented in Figure 3 could also reflect the changes that practitioners go through in terms of washing regimes throughout a life course. The qualitative data again gives us some insight here and shows the importance of mixed methods. Eliza is a 45-54 year old housewife who lives in a semi-detached house with a large garden in northern London with her husband (45-54), which they own. In the survey Eliza said that she showered two times a week, and flannel washed seven times a week. In the survey she reflected that the shower is used to get clean, because it’s quick, after sport, and to cool down, and that she used a flannel simply to ‘get clean’. She was identified as belonging to the Low Frequency Showering group in the cluster analysis. In the qualitative interview Eliza could reflect on how her practices had changed over time as a function of retirement, changing work and leisure practices that pushed her more into gardening, changing ideas of what it was to be ‘presentable’, changing travel patterns (no longer catching commuter trains and tubes into London), having children who are grown up
and rarely home and more time to relax. Although the clusters themselves are non-fixed descriptive categories and themselves are subject to change over time, in this example, you can see the potential for a change from Simple Daily Showering to Low Frequency Showering across a practitioners life course (Shove et al., 2012). It also provides evidence of the bundling of practice entities of cleanliness with other practice entities like work, leisure and commuting that characterise daily life.

Quantitative data can capture practice across a population reflecting societal level trends, and when combined with qualitative data provides alternative interpretations and nuanced understanding of practice. These ‘typologies of practice’ reveal the complexities of the emergence, maintenance and disappearance of practices underpinning demand in a way that current customer segmentation processes in the industry do not. A basic reflection, but important one, is that the cluster analysis enabled us to provide evidence for the utility of using practice as the unit of analysis for understanding the patterns of water use across populations. Enacting theories of practice through method in this way enabled the development and demonstration of new resources (methods of instrumentation) that could be used by the water industry and policy makers in understanding consumers. A practice-driven approach to segmentation offers a potential alternative methodology which shifts the focus from the individual and their choices, to the elements that make up everyday practice, and the conditions and contexts that enable everyday practice to happen (Browne et al., 2013b).

It focuses, in essence on what people do with water. Focusing on practices and letting go of the ‘water’ embedded in these activities gets closer to actual ‘water consumed’ through the enactment of activities in everyday life, than traditional approaches which focus on attitudes and values.
Empirically, the cluster analysis actively interfered with the idea of the average consumer, and provided further empirical evidence that ‘attitudes’ in particular do not link to (sustainable) practices. For example, this survey provided statistically based evidence of inadvertent environmentalism – where sustainable practices happen without any particular action/value link to environmentalism (Hitchings et al., 2013). Those in the clusters characterised by low frequency washing (Low Frequency Showering and Bathing groups) were less likely than the rest of the population to report that they wanted to do more for the environment. Those that were more likely than average to want to do more for the environment were actually those implicated in higher frequency bathing routines (Out and About Showering in particular). A limitation of our study was the lack of ability to assess the exact resource intensiveness of clusters of practice. However, if one starts from the assumption that lower frequency washing is less resource intensive than at-least-once-daily showering, then the premise of the efficacy of interventions that focus on reducing water use in the home based on environmental motivations is rendered nonsensical.

The cluster analysis was also a first attempt at revealing a new reality, and redefining the agenda for the water industry; a reality that reflects the diversity and complexity of demand across a population but through methodologies readily understood by the industry. In this way even demographic variables like age and gender that would be used within the common segmentation frameworks become more complex and multiple. Our results revealed that socio-demographics are not defining of practice, but nor are they completely irrelevant. The interpretation of Figure 3 in combination with qualitative data revealed both changing entities across space and time (a trace of
historical ways of being and doing), and changes across practitioners’ life-course. That is, our research results redefine the conversation about socio-demographics in relation to actual dynamics of practice - including recruitment to, reinterpretation of, and defection from practice across life course - and the conditions that change practice entities across populations. We now move into a final discussion about performing methodology as an intervention.

Reflections on Performing Methodology as Intervention

The retelling of familiar theoretical and empirical stories in new ways is in itself a form of intervention. Our research was, from the outset, substantially committed to engaging with the water sector in on-going conversations about the theory, methods, and then finally results. These on-going conversations about, for example, the historical trajectories of showering in the UK, were then backed up with mixed methods data, that redefined the unit of analysis from people to practices. What our data enabled was a retelling of the story of the complexities of demand in the kind of data ‘language’ and format increasingly required by UK policy contexts – numbers as evidence (Cabinet Office, 2013). Our research enabled an expression of this story “in the fissures” of mixed quantitative and qualitative methods, rather than solely relying on the familiar “ontological and epistemic embrace” of qualitative studies which tend to dominate studies of practice (Law, 2009, p. 250). The result of this was that this familiar story could be ‘made different’, and provide different evidence for, theories of practice for a social policy audience. In retelling familiar stories in new ways, and to new audiences, methodology becomes a form of intervention by providing different insights into the
'big questions’ about the complexities of resource consumption, demand and sustainability.

New quantitative and mixed methodologies to study practices related to sustainability do not just retell familiar stories, but can also reveal alternative conceptualisations of the consumer and everyday practice related to water use. By focusing on the performance of practice across populations our data revealed current and emerging trends related to cleanliness. The first and most important point discussed in the previous section was how quantitative data can reveal the escalation and extent of routines of cleanliness across populations in a way that is difficult to capture through small ‘n’ qualitative and ethnographic studies. The mixed method approach also revealed how routines and practices-entities bundle in complex ways, and can be reformed in unexpected ways across populations.

The significance of the development of quantitative and mixed methodologies for theories of practice is also in the ability of these methodologies to redefine debates about the complexity of consumption and sustainability. As discussed part of this redefinition is the ability to provide evidence of theoretical concepts at a population level. The step beyond the redefinition of agendas and the provision of evidence of the utility of theories of practices to the study of consumption, is that these new methods can be seen as resources for the industry. This new methodological approach is a potential resource to inform a collection of data about water demand that more completely reflects the complexities of practice (e.g., future trajectories of practice) and reflect an opening up about the idea of intervention for sustainability.
The use of large scale survey data to reflect upon practices shows a way to build up methodological resources to inform the evidence base about resource consumptive practices and how they can, and may, change over time. This might be particularly relevant for ‘washing’ where less resource intensive ways of doing cleanliness seem to be disappearing over time as more and more practitioners are recruited into at-least-daily-showering. The analysis presented in this chapter has highlighted how surveys can be developed that capture the patterns of the performance-of-practice across populations, and snapshots of practice-entities. Elsewhere (Browne et al., 2013a) we have highlighted how adopting a ‘big data’ perspective to studying practices may facilitate in spotting and tracking practice-as-entities over time. Methodological resources which could be used to evidence the utility of theories of practice to policy settings could include bespoke data collection such as repeats of practice based quantitative surveys, smart meter data collection and qualitative studies, but equally could be reinterpreting readymade ‘big data’ collected through on-going micro-component studies or expenditure data through the lens of social practices.

Turning to the consideration and design of interventions, current approaches to water demand and intervention offer little beyond a simple provision of technology and information based as they are on the idea of an ‘average consumer’ (Sofoulis, 2011b). The diversity and the patterns reflected in our research methodologies opens up the idea of consumers not being ‘average’. These methodologies have highlighted the need for a redefinition of the ‘single silver bullet’ interventionist agenda, and the need for consideration of the complexities and multiplicity of pathways towards sustainability.
Practice theories are contributing to a comprehensive theoretical discussion about how to influence processes of change. The diverse strategies needed to influence resource consumptive practices range from influencing the performances of practices through broader socio-cultural-technological-infrastructural-regulatory change that underpins and shapes those performances (Browne et al., 2014). Examples of this include the integration of design with theories of practice such as intervening in the materiality and routinized performance of hair care (Hielscher, 2011), bathing or staying warm at home (Kuijer, 2014). Equally it could also involve the re-crafting or substitutions of practices such as shifting mobility in cities from cars to bicycles (Spurling et al., 2013), or transitions of socio-technical systems and final consumption practices (McMeekin and Southerton, 2012).

Conclusion

In this chapter we have argued that a mixed methodological approach to studying theories of practice, integrated with strong stakeholder engagement, holds great promise for intervening and governing social life and social change. Scaling methodologies of practice through the integration of quantitative with rich qualitative data is a way of retelling, revealing, redefining and evidencing through new methodological instruments and resources the complexities involved in governing, and intervening in, social life. The quantitative analyses in particular pushed an ontological politics of methods by creating and enacting a different reality, a different way of knowing everyday water consumption in the home by reorienting the unit of analysis from people to practice. Playing politics with method and focusing on the methodology as the intervention, our research project disturbed the foundations of the ‘ABC’
approach, but also revealed new political realities and possibilities for theories of practice to inform research and policy on water demand.

References


Figure 1. Percentages of respondents having a bath and/or shower (n = 1750, weighted by respondent).
Figure 2. Percentages of respondents reporting different showering and bathing frequencies n = 1802, weighted by respondent
Figure 3. Variation in percentages of cluster membership by age n = 1725, weighted by respondent