Changing littering practices at Glastonbury Festival

Spotswood, Fiona

Senior lecturer in marketing and behaviour change, Bristol Leadership and Change Centre, University of the West of England, Bristol, BS161QY

Whitaker, Briony*

Lecturer in marketing, University of the West of England, Bristol, BS161QY

*corresponding author

Abstract

Findings:

This conceptual paper introduces practice theory as a potential alternative to the traditional ways that littering is conceptualised and tackled, and considers the strengths and pitfalls of the theoretical approach for the expensive, pervasive and environmentally dangerous littering problems faced by Glastonbury Festival.

Implications:

The study of littering has yet to embrace practice theory, despite the theory being considered the cutting edge of sustainable consumption research. This paper is an exploratory starting point, opening up a potential future research and intervention agenda for festival organisers and researchers alike to consider littering as a by-product of a range of different bundled practices rather than the result of particularly attitudes and behaviours.

Limitations:

Practice theory has yet to move authoritatively out of a theoretical domain and be used in the process of intervention planning and implementation, although some early efforts are beginning to emerge. As such, the applicability of the theory to a real world setting is untested. Relatedly, it is not fully clear how evaluation can capture the full extent of a multi-disciplinary culture change programme inspired by practice theory.

Contribution:

The paper offers the first practice theoretical examination of littering and introduces the theory to the practical challenges faced by Glastonbury and other festival organisers as well as introducing the problem of littering to the practice theory field, already central to the study of other issues in sustainable consumption.

Keywords:

Littering, Glastonbury Festival,

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Introduction

Since 2011, music festivals have seen the most growth in popularity in the leisure sector (Leisure Review, 2016). Festivals now account for around 13,500 full time jobs in the UK, with spending within the live music and festival market amounting to over £2 billion (*ibid*). Contributions of over £73 million to the worldwide economy have meant that Glastonbury Festival has cemented itself as the largest greenfield festival in the world, and it prides itself as having provided a 'template' for other festivals. Glastonbury Festival has evolved from a gathering of 1500 people in 1970 with a desire to move away from over-commercialisation, to 177,500 attendees in 2016 spending almost £300 each during the temporary five-day city within the countryside that it has now become, with a 22,700% increase in ticket costs since its initial year (Glastonbury, 2017).

However, the environmental repercussions of such a large gathering as Glastonbury Festival are significant and have become a rising concern (York, 2015). Particularly worrying is the litter. Both passive and active littering (Sibley and Liu, 2003) can be observed at Glastonbury Festival, with some attendees either 'passively' leaving their litter - including possessions like tents and wellington boots - when they exit the festival, and with some choosing this option intentionally. The development of a 'disposable culture' now has been linked to the trend for festival-goers to buy cheap festival gear and leave it on site. Although Glastonbury Festival encourages attendees to invest in high-quality camping equipment, supermarkets and large retail stores encourage the purchase of cheap, flimsy tents not designed for long term use. With long queues and long walks to reach a campsite, the leaving behind of large volumes of 'single-use' camping gear at the end of the festival has become the norm. Such a significant problem are the discarded tents that in 2016 an initiative was trialled whereby tents were collected and donated by Aid Box Convoy to refugees in Northern France. However, rumours of tents 'going to good use' likely added to the problem because attendees were even less incentivised to leave their campsite clean, costing the organisers even more to clean-up and in many cases doing little to support the refugees given the poor quality of the equipment.

Various measures have been put in place by the team at Glastonbury festival to curb the environmental impact of litter from the event. Glastonbury Festival dedicates £780,000 to the disposal of waste at the end of the event due to the amount of litter that is generated. The festival hires 13,500 litter pickers, tasked with the job of clearing up during the festival as well as after it (Glastonbury Free Press, 2016). The clean-up process can take up to six weeks to complete before the site can be returned to its primary purpose as a dairy farm. During 2016's festival clean-up, 500,000 rubbish sacks were filled and 57 tonnes of reusable items were discarded (*ibid*).

Glastonbury has also trialled some pre-emptive measures to reduce littering, although has noted with some resignation that "Any event with 177,550 attendees will generate significant levels of litter" (Glastonbury Festival, 2016). In 2016, a pledge was introduced for all attendees to promise to 'love the farm and leave no trace'. Without agreeing to the pledge, which involved ticking a box on

the sales website, a ticket could not be purchased. The pledge is designed to encourage attendees to take all physical evidence away with them at the end of the festival, with only memories remaining. 'Don't pee on the land' promotes the compost loos whilst highlighting the potential destruction caused by 200,000 people urinating on the ground. Finally, 'Take it, don't leave it' fights the concept of disposable culture by asking attendees to invest in high quality camping equipment to use on multiple occasions and not to leave their tents behind. Furthermore, the organisers invited artists to decorate the rubbish bins at Glastonbury Festival with a view to encourage attendees to use them for litter disposal. In 2015, the bins formed part of an exhibition, 'One Nation Under a Groove', at the Southbank Centre in London, and have even been displayed internationally at the 2014 Common Ground: The Music Festival Experience exhibition in Ohio (Glastonbury Festival, 2017a).

In addition, Glastonbury Festival recently introduced 'Worthy Warriors' to help promote sustainable behaviour throughout the campsites (Glastonbury Festival, 2016). Rather than 'working' at the festival, the Worthy Warriors are people who have a general admission ticket to the event, but who can apply to volunteer to distribute recycling bags and encourage fellow attendees to behave in a sustainably-friendly way (*ibid*). Rather than organisers 'policing' attendee behaviour, this approach was designed to use 'peers' to keep their own behaviour in check, in exchange for a ticket, and begin to encourage bystander intervention. No evaluation of the effectiveness of these interventions on littering are available.

Glastonbury's attempts to tackle littering fall into two camps; there are measures designed to clean up after festival-goers and measures designed to shape their behaviour. The latter 'behaviour change' approaches are the focus of this paper because tackling the cause of the problem is likely to be a more sustainable option for the festival organisers than focusing their increasingly costly efforts on the 'clean up'. Furthermore, there is nothing to suggest that festival-goer behaviour will swing towards environmental responsibility without intervention. Rather, research examining the changing culture of Glastonbury over the past four decades has highlighted the commodification of festivals, and how the objectives and behaviours of festival attendees have shifted far from the early goal of cultural celebration and a break from commercialisation. Far from the original intentions of conserving "natural resources; [and respecting] nature and life" (Kerr, 2011, p.202), festivals are now "entertainment productions" (Getz, 2012, p.29), defined by festive behaviour and a detachment from responsibility (McKay, 2000).

Glastonbury Festival's behaviour change efforts make a set of assumptions about the mechanisms underpinning effective behaviour change; that the provision of information or the sufficiently persuasive tactics will overcome barriers and motivate people to cease littering and responsibly dispose of their waste. However, the behaviour change literature is rife with evidence that information is rarely the sole route to behaviour change (Hargreaves, 2011; Marteau, Sowden and Armstrong, 2002). Furthermore, the gap between values or attitudes and action has been the subject of decades of research (Fishbein and Ajzen, 1974; Kraus, 1995; Maio, 2011; Wicker, 1969), indicating that even when individuals care about the environment, their actions may not 'match' their values. Indeed, there is growing body of evidence questioning the effectiveness of measures which assume that people lack information or motivation, or that they need help, and that once one or more of these is supplied they will be more inclined to change (Bonsall, 2009).

In the light of this critique of models of change which put individual attitudes and behaviour at the centre of focus, the social sciences have further questioned the extent to which change is in fact "within the capacity of individual agents to bring about alone" (Hargreaves, 2011, p.80). Welch (2016, p.240) explains further that

> Conventional behaviour change strategies, primarily influenced by social psychology and economics… draw on an implicit model of behaviour, which assumes individuals' capacity to achieve change, and emphasises the deliberative character of behaviour… [T]his model structurally overestimates the role of choice in routine behaviour and fundamentally underestimates the extent to which individuals' autonomous action is constrained by infrastructures and institutions, by collective conventions and norms, and by access to resources.

Rather than viewing behaviour as the result of active deliberation, Welch and a growing number of other social science researchers (Shove, 2010; Southerton, Warde and Hand, 2004; Spaargaren and Van Vliet, 2000) argue for a framing of individual action within the context of interlocking 'practices'. The practices, made up of materials, meanings and competences (Shove et al., 2012), shape the collectively meaningful action of practice 'performers'. Performances in turn keep the practices 'alive', but are often executed in routinized, largely automatic ways. Popular examples of practices in the literature are showering (Shove, 2003), driving (Cass and Faulconbridge, 2016; Spotswood et al., 2015) and eating (Maller, 2015), and studies have shown how these practices are repeatedly performed by 'practitioners' in relatively similar ways, although the practices evolve over time when connections between elements in the practice are modified. For example, the introduction of new products (e.g. breakfast cereals), can affect the meanings of a practice (such as health, convenience or speed). Framing the 'behavioural problems' of sustainability using practice theory is at the heart of cutting edge sustainability social change research (c.f. www.demand.ac.uk). Following this line of thinking, this paper will explore the potential for taking a practice theoretical perspective of littering 'practices' at Glastonbury Festival in order to provide theoretically underpinned insights for the development of a more robust approach to 'behaviour' (or more accurately practice) change.

Tackling littering

Littering is a persistent problem that occurs worldwide on a daily basis. Not limited to environmental concerns, the social, health, and aesthetic implications of littering have long been of interest to researchers (Burgess et al., 1971; Finnie, 1973.; Geller et al., 1997). The problem is also significant economically, in that the presence of litter in a residential community decreases property value, and litter in commercial areas reduces sales and attracts fewer customers (National Association of Home Builders, 2009; Skogan, 1990). The focus of existing research into littering frames the problem as the result of a severance between the action itself and an awareness of the consequences (Tjell, 2010). Littering is viewed as an 'intentional' activity, as is the counter-behaviour of 'not littering' (*ibid*).

Research identifies young people (16-24 years old) as the most prevalent offenders of littering, exhibiting behaviours across a spectrum from "'flagrant flinging' (used items are thrown or dropped with no apparent concern), to 'brimming' (balancing litter on the edge on an already-full bin)" (Roper and Parker, 2008, pp.882-883). Although a Mintel study identified that 43% of 16-24 year olds in Britain agreed with the statement 'I do not like waste' in comparison to 80% of those aged 65

years and over (The Green Consumer, 2014), research has been fairly consistent in finding that younger people are most likely to litter (Bator et al., 2010).

Approaches to tackling littering range across a wide spectrum, including carrots, sticks and promises (Rothschild, 1999), although published research about 'what works' to solve littering behaviour is limited. Many nations use financial and other 'sticks', such as the UK, which introduced fixed penalty fines for dropping cigarette butts and other litter; and Singapore, where littering is 'virtually non-existent' (Tjell, 2010). This has also been explained by pointing to the national dislike of littering (*ibid*), although the relationship between the policy and cultural taste is unexplored.

Other research has shown that providing information and messages to promote environmentally-friendly behaviour can have some effect (Schultz et al., 2013). Although not based on an intervention study, Rath et al. (2012) found that smokers are less likely to view cigarette butts as 'toxic litter', and suggests using targeted media and social media messages to overcome this misperception. More noteworthy are the findings of the Keep America Beautiful (KAB) study (Johnson, 2009), which measured a significant decrease in littering after anti-litter campaigns and public education. However, the KAB study has been criticised because it was funded by tobacco company Philip Morris (Rath et al., 2012). One particular message-framing tactic singled out in the research as a potentially useful tactic for reducing littering is the use of perceived surveillance. Bateson et al. (2015) found that simply by introducing an artificial eye on a flyer could reduce littering. This false cue produces a subconscious feeling of observation, and the study showed that people were more inclined to demonstrate prosocial behaviour.

With litter research consistent in naming 'young people' as the demographic most prone to littering, Long et al. (2013) note the surprising lack of research undertaken specifically with school adolescents and littering (although c.f. Sibley and Lieu (2003)). Their study measured behaviour change within social networks at a school that had recently introduced recycling initiatives, and concluded that social influence, whether conscious or mimicry, is a key driver for individual 'green' behaviours amongst younger peer groups. They emphasise the importance of differing sources of information such as parents, peers and teachers to promote environmentally-friendly behaviour and norms.

Another group of studies have shown that the presence of trash receptacles and the amount of litter present are the most significant predictors of littering behaviour, although Roales-Nieto (1988) found that more receptacles does not necessarily reduce littering, and that other mediating factors like convenience are more important. Nonetheless, Brown et al. (2010) found that people littered less in a clearly labelled 'protected area' compared with urban areas where the presence of litter inspires others to follow suit. Sibley and Liu (2003) discovered that the presence of additional ashtrays and litter bins on campus resulted in a decrease of cigarette littering when observing students sitting on steps, commonly used for eating or smoking. In their study of young people's littering, Sibley and Lieu (2003) emphasise that passive littering was the more prominent behaviour over active littering, and is also the most resistant to interventional change. They note that people are more likely to leave their litter behind once sat down for a long time, despite the increased presence of litter bins, highlighting the importance of targeting and understanding passive littering behaviours.

Finally, some studies specify the importance of multiple approaches to the reduction of littering. In a rare festival study, Cierjacks et al. (2012) found that the presence of bins *and* communication materials at an event encouraged attendees to dispose of waste correctly, leading to a decrease in litter. However, this was limited to specific areas; near to the bins in the festival enclosure only. Most helpfully, Schultz et al. (2013) conclude their study of 130 outdoor public locations in the US - involving nearly 10,000 individuals – with the comment that just introducing more receptacles is "probably an overly simplistic consideration" (p.51). Rather, they argue that three approaches combined will yield the best results to reduce littering. These are 'beautification', based on the principle that 'litter begets littering' (see also Bator et al., 2010; Cialdini et al., 1990); 'behavioural opportunity' in the form of convenient, accessible and recognizable receptacle "with clear and recognizable messaging and prompts" (Schultz et al., 2013, p.54); and 'awareness and motivation campaigns' which use social marketing principles of segmentation and targeting to maximise effectiveness (see McKenzie-Mohr, 2002).

From this brief review of approaches to tackling littering in the existing literature, it is possible to see that there are four groups of theoretical assumptions therein, although these are not overtly considered in the studies themselves. The first is an assumption that individual behaviour can be shaped through attitude change or the provision of suitable motivational cues. The second is that by strengthening and communicating an environmentally positive 'social norm', the behaviour of individuals will be influenced. The third is that the provision of incentive or penalty will shape behaviour. The fourth is that changes to the physical environment through the provision of rubbish bins will change behaviour. In many cases these approaches are employed alone, although there is a move towards a multi-pronged approach, seen also in the increasing number of approaches introduced by Glastonbury in recent years. However, there is currently no attempt to offer a theoretical explanation for the combining of a range of approaches and what effect this might have on the long term solution of littering in a scalable and translatable way. Rather, the approaches proposed to tackle 'structures' (more litter bins, notices and penalties) and those tackling 'agency' (persuasive tactics and social norms) are treated separately, with no attempt to consider their potentially fruitful interrelation for shifting the overall culture of littering.

In addition, the gap in the current studies extends to a lack of consideration for the way that littering activity is patterned and organised across groups in such a way that it happens in a relatively automated way, governed by invisible forces beyond the power of individuals to change. In a littering context this unconscious behaviour has been termed 'passive' littering (Sibley and Liu, 2003). We glimpse the power of invisible forces in research based on 'herd' theory (Earls, 2007), which explains how individuals can fail to act in isolation and in seemingly irrational ways when in large, relatively unorganised but powerful groups (Morone and Samanidou, 2008). In such groups, members follow the behaviours observed around them without consciously considering in any meaningful way the consequences of their actions (*ibid*), but conform just because it 'feels right'. This is reflected in Bator et al.'s (2010) work, who write how prosocial behaviour "tends to decrease when there are more people present, based on diffusion of responsibility" (p. 297). Individuals can lose themselves within a mob and shed the awareness of their behavioural consequences. Music festivals create opportunities to escape, and people segregate their festival identity from their individual realities, allowing them to reinvent themselves and take a step back from their normal life (Lutz, 2016). The result of such identity loss, or at least shift, and a diminished sense of self amongst a crowd or community can lead to uncharacteristically violent behaviour such as football

hooliganism. As Replogle (2011, p. 801) notes, “It is cognitively easier to act grossly inappropriately if others…are doing the same”. The usual sequential decision making process is disrupted by observing how others behave and ‘joining the queue’ even if this is in contrast to their private information (Morone and Samanidou, 2008). Also, the more this behaviour occurs, the more accepted it becomes.

‘Herd’ thinking suggests that interventions for tackling festival littering based on shaping deliberative decisions by individuals may be severely limited. Although insightful into the automaticity of crowd behaviours, ‘herd’ theory focuses on loss or shift of identity and responsibility, and does little to account for *how* ‘behaviour’ is governed by mutually negotiated and collectively co-constituted sets of understandings about the way to perform the ‘doings and sayings’ of any practice (Schatzki, 2001). This paper argues that practice theory would potentially be more helpful for explaining the coordinated social patterning of often ‘passive’ littering, for underpinning a strategy for shifting patterns of problematic socially organised behaviours, and also for shaping interventions which use multiple forms of behaviour change technique. After introducing some of the key tenets of practice theory, this paper offers a first practice theoretical analysis of tackling littering at Glastonbury Festival as a way of introducing a promising new theoretical framework to the study and task of reducing littering.

Practice theory and behaviour change

Practice theory has been offered as a potential solution to the critiques of individualist behaviour change approaches which emphasise choice and decision making (Moloney and Strengers, 2014), and has begun to enter policy debates (Chatterton, 2011; Darnton and Evans, 2013; Darnton et al., 2011; Watson, 2016). Although practice theory has been used in research across many areas outside sociology, such as science and technology studies, organisation studies, leadership, and consumption and marketing, scholars of energy demand and unsustainable consumption have taken the lead in exploring the potential of practice-theoretical thinking in terms of re-framing policymaker thinking (Shove, 2014).

Practices are the routine accomplishment of what people take to be ‘normal’ ways of life (Shove, 2010), which could be understood as the social arrangement of habits. Practice theory (PT) purports that social life is organised according to practices which people perform in the accomplishment of everyday activities, such as showering, eating meals, going to work, physical recreation and so on. Much of this activity is largely routinised in the sense that there are sets of collectively understood rules about how to ‘act’. We might shower upon waking, not because we ‘decide’ to do so, but because that is the shape that ‘getting ready’ or ‘feeling fresh’ takes. We can make choices within this context, but ‘getting ready’ has meanings which are set and, importantly, reconstituted every day through our repeated performance.

An understanding of routinised patterns of practice as ‘entities’ performed by practitioners (Welch, 2016) is significant in a variety of ways for the way behaviour is conceptualised and changed. The first way is that the practice, not the individual, is the unit of study. ‘Behaviour’ change starts with an understanding of how practices are constituted, and before that with an understanding of what practices are the ‘problem’. There are various models seeking to label the components of practice but one of the clearest is the 3-elements model (Shove et al., 2012), according to which practices

comprise material things (‘stuff’, equipment, infrastructure), competences (interchangeable with skills and know-how) and meanings (images, symbolism, understandings). Put simply, every practice arises from the configuration of these elements and an analysis of them can help identify the reasons a problematic practice, such as littering - has evolved and taken hold. This analysis can also help to start with identifying how the links between elements might be broken or changed. For the practice of commuting to become commonly performed by bicycle, requirements of the practice might include the competences of navigation and cycling; the material stuff of a bike, roads, panniers, helmet, locks and showers at work; and the meanings of cycling being supported by organisational leadership and by other road users (Spotswood et al., 2015). If the ‘desirable’ practice of cycle commuting struggles to recruit practitioners, as it does in the UK (DfT, 2014), then intervention in multiple forms will be required across multiple elements to significantly reconfigure how it can be undertaken.

Practice theory also purports that practices are sometimes bundled inseparably together. For example, ‘cycling to work’ is bundled with working practices which determine scheduling and conventions around dress and status (Leonard et al., 2012). Similarly, ‘littering’ might be bundled with smoking if the litter were cigarette ends. Practice theory, by starting with the various interrelating practices which actors ‘perform’ or ‘carry’ (Reckwitz, 2002), potentially allows for a more complete view of the way undesirable patterns of ‘behaviour’ arise, interlock and evolve and thus a more complete view of potentially multiple footholds for change (Hargreaves, 2011). There are often surprising connections between practices which would be missed in a conventional analysis (Hobson, 2002).

Finally, it is important to explore the mechanisms through which practices are thought to change, so these can be harnessed in a practice theoretical approach to littering ‘behaviour change’ management. Practice theoreticians argue that there are three ways that practices change. Firstly, the performers of routine will reconfigure a practice through their daily enactments. Secondly, practices evolve via changes to the connections between their elements (Warde, 2005), i.e. when the materials, meanings and competences within them change. Thirdly, practices change when elements and practices in neighbouring or bundled practices evolve or are changed. Examples include smartphones (a material), which have afforded practice changes in music consumption, socialising and workforce practices; or anti-smoking campaigning which changed meanings around smoking and paved the way for regulation and ultimately wide-scale changes in tobacco consumption, pub-drinking and hospitality industry practices (Blue et al., 2016).

This paper argues that there is potential for practice theory to help solve the problem of littering at Glastonbury festival for two key reasons. Firstly, practice theory is not aligned to any one intervention approach, but rather will tend to naturally lead to a range of integrated interventions tackling various parts of the practice constellation. These intervention options are likely to be interdisciplinary due to the multiple elements in a practice, and changes will likely need to be made at as many points as possible to achieve a shift in the practice (Spotswood et al., 2017). Secondly, practice theory accounts for the routine, almost automated, nature of littering. Festival-goers do not engage with littering in a deliberative way. They may even have pro-environmental values or attitudes which are incongruent with their littering actions, yet still continue to litter. They are in a state of ‘distraction’ (Schatzki, 2017), not in deliberation, and it is in this context that interventions

for change must take hold. There is a strong fit here with practice theoretical understandings of the routinization of everyday behavioural patterns.

Discussion: a different approach to tackle littering at Glastonbury Festival?

The theoretical ideas presented in this exploratory paper lead to an early analysis of what a practice theoretically underpinned intervention might look like at Glastonbury Festival. This paper is not empirical, so this discussion does not aim to set out a comprehensive intervention plan. Rather, a set of ideas or principles are introduced based on practice theory in line with Southerton et al.'s (2011, p.34) plea for behaviour change orientation to "shift away from persuading, influencing and encouraging attitudinal change in the hope that millions of people will simultaneously change their behaviours, and towards a focus on how daily practices are co-ordinated and ordered within collective daily life".

Firstly, a core principle should be for Glastonbury Festival to focus on the practice of littering and not the attitudes or discrete behaviours of the perpetrators. Research should scope out the problem of littering by identifying and examining the practice entities and bundles which interplay in its formulation. The 3-elements model can be useful here as it clearly depicts a practice as comprising 'materials', 'meanings' and 'competences' (Shove et al., 2012) and such simplicity can aid analysis.

To unravel the practices in the spotlight, a range of research methods are likely to be required, including observation of practice performance as well as desk and traditional face to face qualitative data collection methods to understand the practice as entity. Observation is particularly important given the routinized, automated nature of practices with strong but invisible collective conventions. People do not tend to know the significance of their own actions (Bourdieu, 1977).

During this early scoping stage, it is likely to become apparent that littering at Glastonbury is not one practice, but many, or part of many. For example, one of the authors has first-hand experience of the difficulties of packing up and carrying heavy, often waterlogged, tents and equipment back to the carpark at the end of the festival. Festival-goers are tired at this point, and the walk can often take an hour or more. Leaving tents behind is clearly not a practice in its own right, but part of the practice of packing up and going home, and that should be the focus of attention. Similarly, the practice of camp cooking will involve disposing of food and other waste in ways that depend on the set up of the camp. Littering at the point of cooking is clearly also not a discrete practice, but part of a larger practice. Detailed scoping and insight generation will enable researchers to map out the significant practices, but a list based on the authors' own experiences at Glastonbury suggests that significant practices might include parking, navigating around the camp, eating, cooking, sleeping, dancing and packing up.

Secondly, a practice approach to tackling Glastonbury's littering problem would focus on achieving a shift in the collective conventions underpinning the target practice(s). Uptake of a new behaviour may be an important part of practice change, but only a part. Collective conventions, similar to social norms, change when connections between elements of practice shift to such an extent that a practice becomes routinised. For example, a person can be enticed to recycle their takeaway cup, but the collective convention can only said to have changed when it no longer 'feels right' to throw the cup on the ground, and when people doing so are unreflexively considered to be breaking socially accepted rules. To shift collective conventions, the target of intervention needs to be more

than individual performances, such as the availability of alternatives and the nature of default options. In the long term, shifting collective conventions will have sustainable, wide-scale impact, and should be the goal of 'behaviour change' activity.

Thirdly is the principle of interdisciplinarity when developing interventions. The intervention development stage will take the insights from the scoping exercise and identify footholds for social change, which will include a range of intervention tactics and involve a range of partners, from the security teams to the food traders and car parking managers. The particular tactics for change would be developed within the practice context and be based on understandings about the ways practices can be changed; i.e. through changes to the interconnections between any practice element, such as between material things and meanings, or competences and materials. For example, the convenience and prominence of recycling and waste disposal receptacles, along with a litter-free camp-ground (materials), are crucial for changing the meanings around littering. Similarly, guidance - perhaps in the form of 'Worthy Warriors' - about how to recycle, or how to break camp, might shift the meanings of camp tidiness by tackling the competences required to achieve it. However, these interventions are unlikely to shift the practice in the right direction, nor impact the collective conventions, without considering how they fit into an interdisciplinary, multi-faceted collection of interventions which in combination seek to make changes to the multiple elements of the target practice and significant bundled practices.

To summarise this brief sketch of ideas for a practice theoretical approach to tackling the littering problem, it is possible to see that four key principles have been drawn from the behaviour change literature in the creation of a set of ideas for future work (Spotswood et al., 2017). These are firstly that intervention approaches should focus on the practice and not the individual because the unit of analysis in practice theory is the practice or bundle of practices; the norms, conventions, ways of doing, know-how and requisite materials which make up the doing of a practice (Schatzki *et al.,* 2001). Secondly, practice-underpinned interventions should be interdisciplinary, which is also a key conclusion from the House of Lords' Behaviour Change Review (House of Lords, 2011) and a central tenet of other key behaviour change commentary (Southerton and Welch, 2015) and approaches (see Darnton and Evans, 2013). Thirdly, the goal of practice-based social change should be to transform collective conventions of a practice and not just shift specific behaviours and attitudes. Finally, the use of ethnographic methods to research practices may well be required in combination with talk-based methodologies, because performers of practice do not always know why or how they come to know how to perform the routines they are involved in (Spotswood et al. 2017).

Conclusion

This paper has offered a theoretically underpinned starter-for-ten for the problem of littering at Glastonbury Festival. Not based on empirical findings, the thoughts presented here are conceptual and exploratory, and are not intended as a prescription for future efforts by the festival. However, it is the authors' hope that introducing practice theory to the socially conspicuous, environmentally dangerous, expensive and pervasive problem of festival littering may help launch a research and intervention agenda based on the theoretical innovations of practice theory that has gained considerable ground in other areas of sustainability research (Hui, Schatzki and Shove, 2017). However, despite the potential for sustained effectiveness of practice theoretical approaches to behaviour change, there are limitations to the approach which must be considered.

Firstly, although practice theories belong to a widely established stream of literature from sociology, they are only newly translated into a consideration of social problems and the 'behaviour change' field (so-called, although 'practice change' would be the true focus). A fall-out from this thorny transition is the questionable applicability of the theoretical approach for both conceptualising societal evolution *and* underpinning social change. In fact, practice-theoretical contributions to understanding social change have been criticised for lacking practicability (Sahakian and Wilhite, 2014). Indeed, although empirical work exists, particularly in the energy demand field (Butler et al., 2014; Moloney and Strengers, 2014), this work tends not to use practice theory to produce interventions, but rather to critique them, such as the often-cited Cool Biz intervention (e.g. Sahakian and Wilhite, 2014; Shove, 2014; Shove et al., 2012), which reduced the energy demand from air conditioning by transforming the collective conventions around summer office wear in Japan. Although some have attempted to demonstrate how the pillars of practice theory can be used to create interventions (Sahakian and Wilhite, 2014; Spotswood et al., 2017), the theory simply has not been applied other than to shape the way that problems are defined (Shove, 2014). Redefining the problem is a vital first step, and we are reminded by Shove (2014) that "social theories do not lead directly to prescriptions for action" (p. 416), yet there remains a gulf between theory and intervention which has been bridged in other fields (c.f. Michie et al., 2011).

The second drawback of practice theory as a foundation for intervention is the difficulty with evaluation. By its very nature, practice is a theory of culture (Reckwitz, 2002), and culture change is difficult to measure. Interventions are unlikely to fit into the gold standard models of intervention evaluation hegemonic in the biomedical sciences (Melia, 2016). For this reason there is a growing commentary in behaviour change about the 'policy evidence gap', and particularly the limited types of evidence that are counted as sufficiently rigorous for decision making at intervention management and policy maker levels (Spotswood and Marsh, 2016). As such, there is an inherent difficulty with producing 'robust' evaluations of interventions based on practice theory, which tackle multiple footholds for change across multiple elements and practices, based on evidence from multiple methodologies including ethnography. Nonetheless, there are groups of experts working on this problem, and the Revaluation project based at CECAN (Centre for the evaluation of complexity across the nexus) is one toolkit which has been devised to capture the full value of interventions tackling social change in complex environments.

Despite the limitations of practice theory, this paper has presented an argument for its use at Glastonbury Festival for the underpinning of interventions designed to tackle the littering problem there which has grown over the past four decades. Littering is not necessarily a practice in its own right, but an unwanted by-product from numerous others. In this sense it is like energy usage, which is a by-product of a range of practices from showering to watching television and cooking, all of which demand energy. The study of practices which demand energy - 'what energy is for?' - is at the heart of a major UK conglomerate of six research centres funded by the Research Councils UK, Transport for London and the International Energy Agency. Littering has many of the same characteristics as energy demand, and the opportunity to research it using practice theory, and to take action based on its key principles, is one the authors hope Glastonbury Festival and other sustainable consumption researchers will not ignore.

References

Bateson, M., Robinson, R., Abayomi-Cole, T., Greenlees, J., O'Connor, A. & Nettle, D. (2015), Watching eyes on potential litter can reduce littering: evidence from two field experiments. PeerJ, 3. doi:10.7717/peerj.1443.

Bator, R. J., Bryan, A. D. & Schultz, P. W. (2010), Who Gives a Hoot?: Intercept Surveys of Litterers and Disposers. Environment and Behavior, 43(3), 295-315. doi:10.1177/0013916509356884.

Blue, S., Shove, E., Carmona, C. & Kelly, M. P. (2014), Theories of practice and public health: understanding (un)healthy practices. Critical Public Health, 26(1), 36-50. doi:10.1080/09581596.2014.980396.

Bonsall, P. (2009), Do we know whether personal travel planning really works? Transport Policy, 16(6), 306-314. doi:10.1016/j.tranpol.2009.10.002.

Bourdieu, P. (1977b), Outline of a Theory of Practice. Cambridge: Cambridge University Press.

Brown, T. J., Ham, S. H. & Hughes, M. (2010), Picking up litter: an application of theory-based communication to influence tourist behaviour in protected areas. Journal of Sustainable Tourism,18(7), 879-900. doi:10.1080/09669581003721281

Burgess, R. L., Clark, R. N. & Hendee, J. C. (1971), An experimental analysis of antilittering procedures. Journal of Applied Behavior Analysis, 4, 71-74.

Butler, C., Parkhill, K. A. & Pidgeon, N. F. (2016), Energy consumption and everyday life: Choice, values and agency through a practice theoretical lens. Journal of Consumer Culture, 16(3), 887-907. doi:10.1177/1469540514553691.

Cass, N. & Faulconbridge, J. (2016), Commuting practices: New insights into modal shift from theories of social practice. Transport Policy, 45, 1-14. doi:10.1016/j.tranpol.2015.08.002.

Cialdini, R. B., Reno, R. R. & 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, 1015-1026.

Cierjacks, A., Behr, F. & Kowarik, I. (2012), Operational performance indicators for litter management at festivals in semi-natural landscapes. Ecological Indicators, 13(1), 328-337. doi:10.1016/j.ecolind.2011.06.033.

Darnton, A. & Evans, D. (2013), The ISM Tool – a Technical Guide, Edinburgh: Scottish Government (1-33, Rep.). Retrieved from http://www.gov.scot/Resource/0042/00423531.pdf

DfT (2014), Local area walking and cycling statistics: England 2012/13.<https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/306778/walking-and-cycling-statistics-release.pdf>.

Earls, M. (2007), Herd: how to change mass behaviour by harnessing our true nature. Hoboken, NJ; Chichester, England: John Wiley & Sons.

Finnie, W. C. (1973), Field experiments in litter control. Environment and Behavior, 5, 123-144.

Fishbein, M. & Ajzen, I. (1974), Attitudes towards objects as predictors of single and multiple behavioral criteria. Psychological Review, 81(1), 59-74. doi:10.1037/h0035872

Geller, E. S., Winett, R. A. & Everett, P. B. (1982), Preserving the environment: New strategies for behavior change. Elmsford, NY: Pergamon.

Glastonbury Festival (2016), Glastonbury Festival - Green Glastonbury. Retrieved from http://www.glastonburyfestivals.co.uk/information/green-glastonbury/.

Glastonbury Festival (2017), Glastonbury Festival - Introduction to Glastonbury. Retrieved from http://www.glastonburyfestivals.co.uk/information/an-introduction-to-glastonbury-festival/.

Glastonbury Festival (2017a), Glastonbury Festival - Glastonbury's Hall of Fame bin. Retrieved from http://www.glastonburyfestivals.co.uk/glastonburys-hall-of-fame-bin/.

Glastonbury Free Press (2016), Glastonbury: The Glastonbury Free Press. Retrieved from http://cdn.glastonburyfestivals.co.uk/wp-content/uploads/2016/06/GFP2016_issue2_sunday.pdf.

Gupta, D. K. & Singh, H. (1992), Collective Rebellious Behavior: An Expected Utility Approach of Behavioral Motivations. Political Psychology, 13(3), 379. doi:10.2307/3791604.

Hargreaves, T. (2011), Practice-ing behaviour change: Applying social practice theory to pro-environmental behaviour change. Journal of Consumer Culture, 11(1), 79-99. doi:10.1177/1469540510390500.

Hobson, K. (2002), Competing Discourses of Sustainable Consumption: Does the 'Rationalisation of Lifestyles' Make Sense? Environmental Politics, 11(2), 95-120. doi:10.1080/714000601.

Hoggett, J. & Stott, C. (2010), Crowd psychology, public order police training and the policing of football crowds. Policing: An International Journal of Police Strategies & Management, 33(2), 218-235. doi:10.1108/13639511011044858.

House of Lords Science and Technology Select Committee (2011), Behaviour Change. Report number: HL Paper 179, The Stationary Office Ltd., London.

Hui, A., Schatzki, T. R. & Shove, E. (2017), The nexus of practices: connections, constellations, practitioners. Abingdon: Routledge.

Kerr, A. (2011), Intolerably Hip. Norfolk: Frontier Publishing.

Kraus, S. J. (1995), Attitudes and the Prediction of Behavior: A Meta-Analysis of the Empirical Literature. Personality and Social Psychology Bulletin, 21(1), 58-75. doi:10.1177/0146167295211007.

Leisure Review (2016), London: Mintel. Retrieved January 26, 2017, from http://academic.mintel.com/display/809649/.

Leonard, S., Spotswood, F. & Tapp, A. (2012), Overcoming the self-image incongruency of non-cyclists. Journal of Social Marketing, 2(1), 23-36. doi:10.1108/20426761211203238

Long, J., Harré, N. & Atkinson, Q. D. (2013), Understanding Change in Recycling and Littering Behavior Across a School Social Network. American Journal of Community Psychology, 53(3-4), 462-474. doi:10.1007/s10464-013-9613-3.

Maio, G. R. (2011), 'Don't mind the gap between values and action', Cardiff: ValuesandFrames.org.

Maller, C. J. (2015), Understanding health through social practices: performance and materiality in everyday life. Sociology of Health & Illness, 37(1), 52-66. doi:10.1111/1467-9566.12178.

Marteau, T. M., Sowden, A.J. & Armstrong, D. (2002), Implementing research findings into practice: beyond the information deficit model. In Haines, A. & Donald, A. (eds). Getting research findings into practice. London: BMJ Books.

McKay, G. (2000), Glastonbury: a very English fair. London: Orion Books Ltd.

McKenzie-Mohr, D. (2002), The next revolution: Sustainability. In P. Schmuck & P. W. Schultz (Eds.), Psychology of sustainable development (pp. 19-36). Norwell, MA: Kluwer.

Melia, S. (2016), Evaluating the impact of policy: The built environment and travel behaviour. In: Spotswood, F. (ed). Beyond Behaviour Change: Key Issues, Interdisciplinary Approaches and Future Directions (89-112). Bristol: Policy Press.

Michie, S., Stralen, M. M. & West, R. (2011), The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Implementation Science, 6(1). doi:10.1186/1748-5908-6-42.

Moloney, S. & Strengers, Y. (2014), 'Going Green'?: The Limitations of Behaviour Change Programmes as a Policy Response to Escalating Resource Consumption. Environmental Policy and Governance, 24(2), 94-107. doi:10.1002/eet.1642.

Morone, A. & Samanidou, E. (2008), A simple note on herd behaviour. Journal of Evolutionary Economics, 18(5), 639-646. doi:10.1007/s00191-007-0072-6.

Rath, J. M., Rubenstein, R. A., Curry, L. E., Shank, S. E. & Cartwright, J. C. (2012), Cigarette Litter: Smokers' Attitudes and Behaviors. International Journal of Environmental Research and Public Health, 9(12), 2189-2203. doi:10.3390/ijerph9062189.

Reckwitz, A. (2002), "Toward a theory of social practices: a development in culturalist theorizing", European Journal of Social Theory, Vol.5 No.2, 243-263.

Replogle, E. (2011), Reference Groups, Mob Mentality, and Bystander Intervention: A Sociological Analysis of the Lara Logan Case1. Sociological Forum, 26(4), 796-805. doi:10.1111/j.1573-7861.2011.01284.

Roales-Nieto, J. G. (1988), A behavioral community programme for litter control. Journal of Community Psychology, 16, 107-118.

Roper, S. & Parker, C. (2008), The rubbish of marketing. Journal of Marketing Management, 24(9-10), 881-892. doi:10.1362/026725708x381948

Rothschild, M. L. (1999), Carrots, Sticks, and Promises: A Conceptual Framework for the Management of Public Health and Social Issue Behaviors. Journal of Marketing, 63(4), 24. doi:10.2307/1251972.

Sahakian, M. & Wilhite, H. (2014), Making practice theory practicable: Towards more sustainable forms of consumption. Journal of Consumer Culture, 14(1), 25-44. doi:10.1177/1469540513505607.

Schatzki, T., Cetina, K.K. & von Savigny, E. (2001), The Practice Turn in Contemporary Theory. London: Routledge.

Schultz, P. W., Bator, R. J., Large, L. B., Bruni, C. M. & Tabanico, J. J. (2013), Littering in Context: Personal and Environmental Predictors of Littering Behavior. Environment and Behavior, 45(1), 35-59. doi:10.1177/0013916511412179.

Shove, E. (2003), Comfort, cleanliness and convenience: the social organization of normality. Oxford: Berg.

Shove, E. (2010), Beyond the ABC: Climate Change Policy and Theories of Social Change. Environment and Planning A, 42(6), 1273-1285. doi:10.1068/a42282.

Shove, E. (2014), Putting practice into policy: reconfiguring questions of consumption and climate change. Contemporary Social Science, 9(4), 415-429. doi: 10.1080/21582041.2012.692484.

Smithers, R. & Ladmore, S. (2011, July 07), Thousands of 'festival' tents destined for landfill. Retrieved from https://www.theguardian.com/environment/2011/jul/07/festival-tents-landfill.

Southerton, D. & Welch, D. (2015), A social practice perspective. In Christmas, S., Michie, S. & West, R. (Eds.), Thinking About Behaviour Change: An Interdisciplinary Dialogue. London: Silverback Publishing.

Southerton, D., Warde, A. & Hand, M. (2004), The limited autonomy of the consumer: Implications for sustainable consumption. In Southerton, D., Chappells, H. & Van Vliet, B. (Eds) Sustainable Consumption: The implications of changing infrastructures of provision (32-48). Cheltenham: Edward Elgar.

Spaaij, R. (2008), Men Like Us, Boys Like Them: Violence, Masculinity, and Collective Identity in Football Hooliganism. Journal of Sport & Social Issues, 32(4), 369-392. doi:10.1177/0193723508324082.

Spaargaren, G. and Van Vliet, B. (2000), Lifestyles, consumption and the environment: The ecological modernisation of domestic consumption. Environmental Politics 9: 50–76.

Spotswood, F. & Marsh, A. (2016), Conclusion. In Spotswood, F., (Ed) Beyond Behaviour Change: Key Issues, Interdisciplinary Approaches and Future Directions (89-112). Policy Press: Bristol.

Spotswood, F., Chatterton, T., Tapp, A. and Williams, D. (2015), Analysing cycling as a social practice: An empirical grounding for behaviour change. Transport Research Part F, 29. pp 22-23.

Spotswood, F.; Chatterton, T.; Morey, Y. and Spear, S. (2017), Practice-theoretical possibilities for social marketing: two fields learning from each other, Journal of Social Marketing, 7(2).

Tjell, J.C. (2010), Littering - a persistent problem. Waste Management & Research, 28(10), 863-864. doi:10.1177/0734242x10383188.

Watson, M. (2016), Placing Power in Practice Theory. In A. Hui, T. Schatzki and E. Shove (Eds). The Nexus of Practices: Connections, constellations and practitioners. London: Routledge.

Welch, D. (2016), Social practices and behaviour change. In: Spotswood, F. (ed). Beyond Behaviour Change: Key Issues, Interdisciplinary Approaches and Future Directions. Bristol: Policy Press.

Wicker, A. W. (1969), Attitudes versus Actions: The Relationship of Verbal and Overt Behavioral Responses to Attitude Objects. Journal of Social Issues, 25(4), 41-78. doi:10.1111/j.1540-4560.1969.tb00619.x

York, M. (2015), Glastonbury's rubbish: going against the green ethos ruins it for everyone, The Guardian, 1st July, Available from: https://www.theguardian.com/music/2015/jul/01/glastonburys-rubbish-green-ethos-ruin-festival-worthy-farm-tents.