

Consumer food waste behaviour in universities: Sharing as a means of prevention

Lazell, J.

Author post-print (accepted) deposited by Coventry University's Repository

Original citation & hyperlink:

Lazell, J 2016, 'Consumer food waste behaviour in universities: Sharing as a means of prevention' *Journal of Consumer Behaviour*, vol 15, no. 5, pp. 430-439. DOI: 10.1002/cb.1581

<https://dx.doi.org/10.1002/cb.1581>

DOI 10.1002/cb.1581

ISSN 1472-0817

ESSN 1479-1838

Publisher: Wiley

This is the peer reviewed version of the following article: Lazell, J 2016, 'Consumer food waste behaviour in universities: Sharing as a means of prevention' *Journal of Consumer Behaviour*, vol 15, no. 5, pp. 430-439. DOI: 10.1002/cb.1581 which has been published in final form at <https://dx.doi.org/10.1002/cb.1581> . This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Self-Archiving.

Copyright © and Moral Rights are retained by the author(s) and/ or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This item cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.

This document is the author's post-print version, incorporating any revisions agreed during the peer-review process. Some differences between the published version and this version may remain and you are advised to consult the published version if you wish to cite from it.

Consumer food waste behaviour in universities: Sharing as a means of prevention

Consumer food waste behaviour in universities

Jordon Lazell, Centre for Business in Society, Coventry University, Priory Street, Coventry,
CV1 5FB, UK, jordon.lazell@coventry.ac.uk, 02477659794

Biography

Jordon Lazell is a Research Assistant at the Centre for Business in Society at Coventry University, UK. He gained a BA (Hons) Geography and MSc by Research from Coventry University and is undertaking a part time PhD exploring food waste behaviours across different urban spaces and places. His research interests concern responsible consumption and businesses practices as well as wasteful routines and habits with a specific interest in food. He is also co-founder of the International Food Loss and Food Waste Studies Group.

Sponsors

This research was supported by the Chartered Institute of Wastes Management under the Defra Masters Support Programme.

Consumer food waste behaviour in universities: Sharing as a means of prevention

Abstract

In order to tackle food waste at the prevention stage of the waste hierarchy, an understanding of behaviour that leads to wastage is required. This article examines consumer food waste behaviour in a university setting and the implications for encouraging sharing as a means of mitigating food waste. The embodied and embedded nature of consumption and wasteful behaviours are contended giving explanation to the transition of food into waste. By undertaking a mixed method study and a social media based intervention, behaviour that causes food to be wasted within a campus environment is discussed, furthering the current domestic focus of research. The paper argues that consumer food waste behaviour can be better understood by focusing on the practices, routines and habits of consumers given the hidden nature of the food waste issue. A number of barriers are also presented regarding the sharing of food as a means of food waste prevention.

Key Words

Food waste, waste prevention, embodied and embedded consumption, behaviour change, practices

INTRODUCTION

Food waste is growing along with modern consumption habits attributable to consumers' wasteful behaviour, attitudes and practices (Evans, 2014; Evans *et al.*, 2013; Farr-Wharton *et al.*, 2014a). In the UK, a developed food and manufacturing sector retails high volume, low cost food causing increasing perishable food waste at consumer level (Caswell, 2008; Parfitt *et al.*, 2010; Mena *et al.*, 2011). Despite having the 2nd largest population in the EU, the UK contributes the most by country to the 89 million tonnes of food wasted each year by this continent (European Commission, 2010). Of this food waste (considered here as food that can no longer be consumed by humans) the majority originates at consumer level with 60% of this waste deemed avoidable (Bray, 2013), defined as food or 'leftovers' that are still edible (Alexander *et al.*, 2013). The wastage of food in its edible, consumption state is a paramount issue embedded within economic, environmental and societal issues of inequality, food security and hunger (Evans *et al.*, 2013; Evans, 2014). There is a lack of knowledge in certain contexts of understanding why so much food is wasted with the UK government, for example, stating in the 2011 waste review that "we do not yet have a detailed understanding of the quantities of food waste arising from much of the public sector" (DEFRA 2011:59). Within Higher Education Institutions specifically, mitigation of food waste is important in order to meet a targeted 83% reduction in emissions by 2050 (HEFCE, 2012). Overall, consumers across contexts are an important focal point in addressing the creation, reduction and ultimate prevention of food waste.

The most efficient means of mitigating food waste is to focus on preventative actions within the waste hierarchy (Quested *et al.*, 2013). Such actions involve preventing food from becoming or being characterised as waste, discouraging practices that lead to waste by seeking to actively change behaviour (Cox *et al.*, 2010), and rethinking the current practices and systems in place (Papargyropoulou *et al.*, 2014). Understanding consumer behaviour related to food consumption therefore is important in developing more sustainable consumer food waste behaviours. Factors of embodiedness (bodily, visceral affects and actions) and embeddedness (the micro and macro context of actions) give explanation to the way in which we interact we food within our everyday lives (Warde, 1997; Goodman and Sage, 2013), and therefore also hold influence over the transition of food into waste. One approach that has sought to explain

this link between food consumption and food waste behaviours is a focus on practices in the form of everyday routines actions and habits (Evans *et al.*, 2012). In essence a practice based approach focuses on the performativity of behaviour encompassing elements such as embodied and embeddedness as well as ways of knowing that cut across agency and structure (Reckwitz, 2002; Halkier, 2009;). This focus on actions and materiality can be justified due to attitude-behaviour gaps in consumer behaviour (Boulstridge and Carrigan, 2000; Warde 2005; 2014) and the unrealised nature of wasteful actions hidden within modern throwaway societies (de Coverly *et al.*, 2008; Hawkins, 2005).

Research exploring food waste behaviours has covered the household in-depth (Nye and Burgess, 2008; Evans, 2012a; Evans, 2012b; Quedsted *et al.*, 2013, Stefan *et al.*, 2013; Watson and Meah, 2013; Abeliotis *et al.*, 2014; Farr-Wharton *et al.*, 2014a; Graham-Row *et al.*, 2014; Tucker and Farrelly, 2015; Stancu *et al.*, 2016) however there is a lack of research outside this space as well as a need to focus on preventative rather than reductive solutions at the consumer level. Extant literature on Higher Education Institutions (HEIs) has treated waste as a material detailing its composition and innovative ways to deal with and reduce the volume of disposal material (Felder *et al.*, 2001; Mbuligwe, 2002; Mason *et al.*, 2003; Armijo de Vega *et al.*, 2008; Babich and Smith, 2010). There is a need to understand why consumers are generating so much food waste within this setting and actively implement initiatives to prevent it. Specifically there is a need to move away from individualised approaches that frame the problem of food waste as one at the consumer level in order to account for behaviour to wider factors reflected in the organisation of everyday routines and habits, a stance that is currently absent from policy (Evans *et al.*, 2013).

This study examines consumer' food waste behaviour within the context of HEIs using a study setting of a University in the West Midlands, UK. The study employed mixed qualitative methods and implemented an intervention to encourage sharing as a means of preventing food from being wasted which facilitated exploration of the link between food consumption and food waste behaviour. Firstly an understanding was sought of how students and staff consume food on campus, followed by an analysis of their consumption behaviour that led to the wastage of food. Knowledge of how the university managed food waste was also examined to explore how institutional procedures influence consumer food waste behaviour within this space. Emphasis was placed on consumers' everyday routines and habits involved in consumption and wastage of food whilst also taking into account attitudes and motivations. A

contribution is made regarding the embodied and embedded nature of consumer food waste behaviour.

The paper is arranged in the following manner: First a review of literature outlines current work in the area consumer food waste behaviour and how more sustainable consumption behaviours can be encouraged. This is followed by the methodology section detailing the mixed method approach employed. The paper then moves to present findings and give a discussion of consumer's food waste behaviour and the practice of sharing food as a means of preventing the wastage of food.

LITERATURE REVIEW

CONSUMER FOOD WASTE BEHAVIOUR

Preventing food from being wasted requires an understanding of consumer behaviour related to food before its transition into waste, in its consumption or 'in-use' state (Quested *et al.*, 2013). Consumer food waste behaviour therefore has a context consisting of the circumstances within which the food is consumed that characterises the point at which food becomes waste (Evans, 2011). Food as a material is transgressive and boundary crossing with regards to consumer interaction, which is constructed from "spaces and places, nature and culture, society and technology, bodies and environments, the personal and the political, ethics and morality" (Kniazeva and Venkatesh, 2007; Goodman and Sage 2013:6). The behaviour of consuming food involves and relates to a range of activities surrounding provision, eating and disposal (planning, organizing, shopping, purchasing, storage, preparation, eating, re-use and disposal) extending across social, cultural, economic and environmental realms in the developed world (Kniazeva and Venkatesh 2007).

Embodiment and embeddedness represent key features of consumption behaviour. With regards to embodiment, Goodman and Sage (2013) emphasize how the act of eating food forms intimate relationships of a variety of feelings and affects with the body such as visceral aspects of taste, appearance, smell and touch, as well as pleasure, disgust, authenticity, place, production and power. The body is a central element of consumption, active in the construction of consumer's habits (Wilhite, 2012; Warde, 2014) such as knowledge of food health risks (Kristensen *et al.*, 2013) and the performance of energy consuming actions (Wallenborn and Wilhite, 2014). The embeddedness relates to how consumer actions can be placed in a micro and macro context extending from local level constructions of space to global level food politics (Shove *et al.*, 2012; Warde 2014). Sites of food consumption such as the kitchen reproduce social, cultural and economic factors through the storing and cooking of food (Southerton, 2001) with wider societal commitments directly influencing the regularity of eating habits (Fonte, 2013; Lund and Gronow, 2014). Within the consumption of food, a consumer can be placed within a complex sphere of relationships and interactions, "a visceral reminder of how we variously inhabit the axes of economics, gender, sexuality, history, ethnicity and class" (Probym 2000:9).

Research has already shown how our interactions with waste can be accountable to a disregard for the environment (Hawkins, 2005) with technological development in the disposal and processing of waste removing further thought of wastage within the habits of everyday life (O'Brien, 2007). Thompson's (1979) rubbish theory outlines this process of how consumer products decrease in value over time to become classified as waste. In the case of food this is undertaken over a shortened period undergoing a transformation from surplus to excess (Evans, 2014). The work of David Evans has been prolific in exploring this transition within the context of the household highlighting consumer anxieties of food safety and over provisioning as well as the temporalities that cause surplus food to 'slip' into excess (Evans 2012a; Evans 2012b; Evans *et al.*, 2013). Evans (2014:xv) argues that the transition of "food into waste occurs as a more or less mundane consequence of the ways in which practices of everyday and domestic life are currently carried out, and the various factors that shape the prevailing organization of food consumption". Actions surrounding domestic provision such as having an organised and informed system of purchasing (Stefan *et al.*, 2013) and storing food (Farrwharton *et al.*, 2014a) and as well as the interpretation and negotiation of food safety information (Watson and Meah, 2013) have been linked to consumer food waste behaviour within the home. This link encompasses both embodied and embedded factors reflected in Southerton and Yates' (2015:136-137) identification of six factors that connect behaviours of food consumption and food wastage: 'food safety and health; variety and plenty; care; convenience; economy; extravagancy and indulgence'.

The transition of food into waste is not necessarily a linear process and behaviour that causes food to be delayed or re-defined as edible rather than being wasted is critical to prevention. Research has shown how the classification of food as waste is re-negotiated through the consumption of leftovers within the household (Cappellini, 2009; Cappellini and Parson, 2013). Evans (2012a) describes a number of 'conduits' through which food waste is reduced and prevented by being saved and used in some form. Such research on both the transition of food to waste and the negotiation of this process is occupied by behaviour linked to provision, eating, preparation and disposal located within the household. A lack of knowledge exists regarding this transition outside the home with understanding of consumer food waste behaviour outside this space potentially providing a critical insight into the embodied and embedded nature of such behaviour.

ENCOURAGING MORE SUSTAINABLE CONSUMPTION BEHAVIOURS

A pre-occupation of sustainable and ethical consumption is research that seeks to not only give explanation to negative environmental behaviours but also how best to change consumer behaviour for the better. There are two prominent approaches amongst others that have sought to address this problem. On the one hand research attempts to be ‘methodologically individualistic’ encouraging sustainable behaviour by focusing on consumer’s agency (Warde and Southerton 2012; Welch and Warde, 2015), framing their behaviour on an individual, cognitive level (Udehn, 2002). This utilises an attitudinal basis to facilitate a change in behaviour for example through incentives or penalties used to either reward or fine positive or negative environmental activities (Stern, 2000; Nye and Burgess, 2008), or by promoting and encouraging desirable behaviours by informing consumers (Burchell *et al.*, 2012). Here behaviour change is understood in relation to the ‘sovereign consumer’ who acts solely according to factors that influence their choices and intentions (Norton *et al.*, 1998). Such approaches have been criticised as they have yet to demonstrate the scale of impact needed to lead to a noticeable social change (Shove, 2010; Evans *et al.*, 2012), limited in providing short-term rather than long-term behaviour changes as they overlook the way in which consumption is located in everyday collective actions (Moloney and Strengers, 2014). A ‘value-action’ (Vermeir and Verbeke, 2006) or ‘attitude-behaviour’ gap (Boulstridge and Carrigan, 2000; Carrington *et al.*, 2014; Shaw *et al.*, 2015) has been observed in consumer behaviour as such interventions rely on consumer’s egotistic and altruistic intentions towards the environment in order to change their behaviour (Schuitema and de Groot, 2015), with a discrepancy between holding green values and acting upon them (Spaargaren, 2011). However the validity of this polarisation of attitudes and behaviour has been questioned (Moraes *et al.*, 2012) with more sustainable consumption shown to be possible through individualised empowerment within a collective context of actions (Belkin *et al.*, 2007; Connolly and Prothero, 2008).

In light of the limitations of explanations of behaviour based solely on the individual consciousness, academics in the field of consumption have turned to theories of practice as an alternative approach (Warde, 2005;2014). This theory has several readings (Reckwitz, 2002) however a ‘practice-orientated approach’ has emerged (Corradi *et al.*, 2010) to interpret behaviour as a collective of ‘doing’ actions known as practices which are continually constructed, challenged and modified over time (Schatzki, 2001; Shove *et al.*, 2012). The key difference in approaches is explained by Evans *et al.* (2012:116) in noting that “ecologically

damaging forms of consumption are not seen as a problem of individual consumer behaviour; rather they are understood as embedded within the prevailing organisation of practices”. Consumption here is understood as taking place through practices that are recursively reproduced as part of everyday routines (Warde, 2005; 2014). Such an approach has allowed investigation into the “unremarkable and unrecordable” nature of consumption behaviour, being so mundane within everyday life it is invisible to the individual (Warde and Southerton 2012:6), with little work in the area of food and food waste using a practice approach (exceptions include: Halkier, *et al.*, 2011; Domaneschi, 2012; Fonte, 2013; Sahakian and Wilhite, 2013; Southerton and Yates, 2015).

Attempting to change these everyday routine practices is an effective but challenging method of addressing negative environmental behaviour (Røpke, 2009). Hargreaves’s (2011:90) endeavour to “de-routinize existing waste habits and re-routinize new ones” for example was met with opposition due its placement within legal obligations of data protection, cleanliness and hygiene with participants seeing any effort to change their wastage habits as an invasion of privacy. Sahakian and Wilhite (2013:40) discuss changes to behaviour through the modification and introduction of new practices in the context of food and drink detailing the need to identify all “agentive aspects of a particular practice” in order to facilitate change. Consumption practices are inherently complex and are entangled within the everyday lives of individuals (as carriers of practice) (Shove *et al.*, 2012) and any attempt to change behaviour through the modification or introduction of new practices involves a degree of negotiation (Berthou, 2013). The variations in the performance of practices and the overlap of defining and linking practices with specific consumer behaviours (Shove and Walker, 2010; Bellotti and Mora, 2014) also present difficulties in attempting to modify or change practices as an intervention.

Given the literature reviewed above, this study sought to investigate the embodied and embedded aspects consumer food waste behaviour. The focus of food waste behaviours in a HEI setting aimed to fill a knowledge gap regarding the transition of food into waste at consumer level outside the home. The paper also presents the barriers of attempting to prevent food waste by encouraging the sharing of food using a social media based intervention. A mixed method approach is detailed below along with a description of the intervention.

METHODOLOGY

A university in the West Midlands area of the UK was used as a study site, employing three stages of data collection using a mixed method approach over a four month period. This fieldwork design was consistent with the research aim of furthering the embodied and embedded nature of food waste behaviour as well as using an intervention to encourage sustainable behaviour through sharing food to mitigate wastage. A multi-sited approach was taken to conduct research across a number of spaces as the campus area included eight food outlets. This approach allowed the researcher to acknowledge the interconnected nature of spaces and frame the field of enquiry (Amit, 2000; Pink, 2000; Pink, 2007). Moraes *et al.* (2012) uses a multi-sited approach in exploring the attitude-behaviour gap noting its ability to facilitate the employment of mixed methods. Three key groups were targeted; students, academic and operations staff as they actively inhabited the campus on a daily basis, with students and staff regularly performing food consumption behaviour. Catering staff were of specific interest given their role in the everyday routines of managing food and its disposal.

The first stage involved a survey to record information on attitudes and awareness of food waste, its relation to other environmental concerns and motivations to reduce food waste. Participants were recruited on campus at an environmental awareness event and through a faculty wide email. In order to mitigate attitude forcing, 9 open questions were used enquiring into participant behaviour of a total of 19 questions and 104 were completed. This stage also involved ethnographic observation to capture of typical consumer behaviour at each of the eight catering outlets at three different time periods. A realist approach was employed to make self-reflective notes on consumer behaviour whilst being aware of the limitations of knowledge constructed through the researcher's gaze and the impact of the researcher on the environment being studied (Creswell, 2007). This method was beneficial in observing daily patterns of food waste by consumers and how staff managed waste in dining areas.

In the second stage semi-structured interviews gained an insight into the nature of catering operations. Five interviews with staff from different catering outlets were conducted enquiring into the nature of catering operations, practices employed to manage wastage levels and the habits of customers. Three focus groups were also undertaken to establish the extent of participant's knowledge of the issue of food waste and facilitate discussion on behaviours that cumulate, reduce and prevent food waste. Groupings of staff, students and catering staff were

shown a presentation of images and information on food waste at global, national and regional level to stimulate conversation. The focus groups facilitated the construction of opinions and arguments allowing participants to negotiate meanings (Cook and Crang, 1995).

The final stage of the research involved the implementation of an intervention as a means of modifying current food waste behaviour. Research in the area of human computer interaction has previously shown how social media offers a space for social comparison and accountability, influencing norms and giving feedback on environmental impact (Froehlich *et al.*, 2010; Foster and Lawson, 2013; Foster and Lineham, 2013). Such research gives examples of how routine waste practices can be challenged. Farr-Wharton *et al.* (2014b) explore the role of mobile applications in reducing household food waste, highlighting the hesitation and reluctance to share food. Comber and Thieme (2013) generate awareness of wasteful habits by uploading pictures of bin contents onto the social media site Facebook. Ganglbauer *et al.* (2013) also exemplify how technology can be used to modify negative environmental behaviour allowing consumers to view the contents of their fridge whilst shopping to prevent over-provision of food.

The intervention in this study consisted of a social media tool on the platform Twitter that allowed participants to send messages to inform others of food that would have otherwise been wasted within the study setting. The social media tool operated as a means of interrupting the linear process of consumers consuming and throwing away food on campus; its workings are explained in figure 1. Awareness and participation in the tool was encouraged through promotion via existing social media channels at the university and a poster campaign.

INSERT FIGURE 1 HERE

A thematic analysis was employed to qualitative data collated across the survey, focus groups, semi-structured interviews and ethnographic notes. Aspects of embodied and embeddedness of food and the practice-based approach taken informed the coding and condensing process (Halkier and Jensen, 2011). Content generated through the interaction of consumers via the social media tool was also collated however there was insufficient usage to justify an in-depth coding of findings. Reasons for consumer's lack of engagement in the sharing intervention are discussed in the subsequent section amongst consumer food waste behaviour on and off campus and sharing as a means of food waste prevention.

FINDINGS AND DISCUSSION

The findings presented and discussed firstly outline consumer's food waste behaviour followed by an insight into sharing food as a means of food waste prevention.

Consumer's food waste behaviour on and off campus

A lack of consumer awareness of the issue of food waste was apparent from survey and focus group findings. The majority of participants stated they wasted little if any food with two thirds of survey participants stating they wasted no food during their last meal eaten on campus thus emphasising the hidden nature of food waste behaviours. Within the food supply chain, consumers located actors in the transportation and production of food as the primary cause of food waste, rather than identifying the consumer as shown in the following quote from the student focus group.

“If you look at countries that grow that food they also don't have the transportation and the storage and the refrigeration

So they are wasting loads over there before it even gets here and that's not really something I really thought about but as soon as I read about that I was like yea of course

So it's not even us that's wasting loads it's the whole supply chain, which is even more terrible” (undergraduate student)

There was great surprise by focus group participants to learn that food waste from UK consumers greatly outweighs waste from manufacturers and retailers, supporting the unacknowledged nature of food waste at consumer level (Hawkins, 2005). Students in particular felt that as consumers they wasted little, drawing upon the idea that they are 'too poor to waste food'. Motivations for taking action on food waste were found to be inherently personal such as the need to save money rather than connecting the issue of food waste with wider problems in the food system. This suggests that consumer actions to mitigate food waste are not underlined by egotistic intentions and green values differing from actions taken on other environmental issues (Schuitema and de Groot, 2015). Typical actions implemented to reduce and prevent food waste were linked to the routines of food provision, preparation, consumption and disposal in the home. Nearly a third of survey respondents stated that they regularly

monitored their portion sizes to prevent food waste. A fifth of respondents stated that they saved food and ate it at a later date and other answers included always eating all food served, meal planning, checking used by dates and sharing food with others. Here consumers can be seen as actively drawing upon everyday food consumption habits when giving explanation to behaviours that either cause or mitigate food wastage. The consumption of food extends across a number of actions from provision to disposal that can be seen to also shape food waste behaviours (Kniazeva and Venkatesh 2007), showing how such behaviours can be placed within mundane routines and habits located within the home (Evans, 2012a)

It is questionable whether the actions consumers indicated they undertook to reduce and prevent food from being wasted were consistent when undertaken outside the home. For example catering staff noted that students were particularly wasteful whilst dining at the university.

“They do waste quite a lot especially when they first get their money; they seem to spend it all and then don’t eat it” (Catering staff member)

This was noted to be attributable to living away from home and the lack of experience in managing student loan funds according to catering staff. Here an economic tie is evident in the availability and timing of student loan funds that drives wastage through facilitating food consumption practices such as purchasing meals on campus. This suggests that social commitments, such as entering into higher education in this case, can be seen to influence both food consumption and subsequent food waste behaviours through engagement in new routines and responsibilities (Lund and Gronow, 2014).

The ethnographic observations and insight into consumer behaviour by catering staff highlighted how consumer food waste behaviours were embedded within the study setting. For example the time-constrained nature of study and work in a university environment contributed towards the hidden nature of food waste as explained by one staff member:

“The lack of infrastructure that can be access by an individual to recycle food is inhibiting, how much time does it take to reduce food waste? Lunch tends to be a quick meal in a short break (if one stops working at all) so convenience is essential” (Academic staff member)

The working and studying practices of staff and students created an ‘on the go’ busyness which countered any conscious thought of both food waste actions and the issue in general, suiting the consumption of convenience food and removing the further thought of disposal. This was accentuated by the cleaning roles undertaken by catering staff in dining areas, operating an efficient service of regularly clearing and cleaning away dirty plates and waste left on tables. This removed the responsibility from consumers to deal with any remaining food left thus hiding both the spectacle of food waste and the need for diners to make any active effort to dispose of their wasted food. This suggests that in a time pressured environment where a consumer’s have preference for convenience and are absent from the provision and preparation of food, responsibility of managing disposal is lost and transferred to the working practices of catering staff. This exemplifies points made by Warde (2014) regarding the importance of routines and habits within a local context in giving explanation to consumption behaviour. Consumer’s food waste behaviours were embedded within the campus setting and unlike in the household, consumers only interacted within food in its edible state thus the reasons for wasting food differed from in the home where waste is linked to provision, preparation and knowledge of storing and cooking food (Watson and Meah, 2013; Farr-Wharton *et al.*, 2014a).

Visceral standards linked to the bodies senses such as the appearance, feel, taste and smell were also found to influence consumer food waste behaviour.

“Every now and again I just have a clear out of the fridge of loads of stuff that’s fresh, I’m picky as well with fresh stuff so tomatoes, they have to be firm, if they’re not firm I bin them I won’t buy any carrots or potatoes that I’ve not handpicked myself and looked at” (Academic staff member)

This quote emphasises the embodiedness of food in how our senses are important enablers in both consumption and wastage (Wilhite, 2012). The study saw similar findings to Kristensen *et al.* (2013) with consumers drawing upon their senses and factors of trust in negotiating the edible state of food. On campus the taste and appearance of food served by the catering outlets was stated as a reason that contributed towards its wastage. Consumers noted that they ‘lost interest’ in food and that it was ‘tasteless’ showing its inability to meet the visceral standards for food to be inciting enough to justify consumption, thus contributing towards wastage.

Food sharing as a means of food waste prevention

When implementing the social media tool as a means of sharing food on campus to prevent food waste, a number of barriers were experienced and the tool failed to achieve any considerable change only being infrequently used over the study period. However by evaluating why this initiative failed to have the foreseen impact, critical information is uncovered on consumer's engagement with sharing food as a means of food waste prevention enabling further insight into consumer food waste behaviour. Discussing the social media tool with consumers, the general consensus was that this was a 'good' and 'positive' thing however there was a distinct gap between the intentions of consumers and their actions (Vermeir and Verbeke, 2006).

Consumers held heightened visceral standards for food shared via the social media tool. The relationship between the person donating and consuming the shared food was important in facilitating trust that the food was edible and not contaminated. Previous research has shown that instances when food is shared take place within the home where consumers are linked through domestic practices of provisioning and consumption that reflect family values (Evans, 2014). Without a social relation between the two sharing actors, caution and concern over food was expressed as shown by a catering staff member.

“Some people might feel like it's dirty food, I don't know who you are, I don't know if you've got a cold, that sort of stuff” (Catering staff member)

Without being able to draw upon knowledge of the conditions of the food's preparation and subsequent interaction; appearance, smell, feel and taste are relied upon to determine the edibility of food. The body was critical in negotiating the safety of food with these senses heightened in circumstances where consumers had concerns over the safety of the food shared or held limited trust with the donator (Wilhite, 2012). Wallenborn and Wilhite (2014) discuss how the body plays an important role in constructing embodied knowledge and its influence on the performance of practices. This can be furthered to note the importance of the social context the practice is performed within, noting here the heightened role of the body in consumption practices on campus. Outside the home, the donator and how this person handled the food played a more influential role than how food safety is negotiated in the home (Watson and Meah, 2013).

The tool placed the person sharing the food in a position of responsibility that food was in an edible condition and the lack of replies to disseminated messages showed a lack of trust through virtual means to recover and consume food that would otherwise be wasted. Similar findings were observed to Farr-Wharton *et al.* (2014b) in that consumers lacked trust to facilitate sharing with others due to not holding appropriate knowledge that food was safe to eat; knowledge that is typically embedded in domestic food consumption practices within cases of sharing in households (Evans, 2014). Where food was shared, relationships formed through other practices, such as working relationships, were used to justify this behaviour and facilitate the sharing and prevention of food waste. The bonding and identity formation Kniazera and Venkatesh (2007) associated with collective consumption and sharing food was not observed suggesting that mitigation of food waste does not have the same social justification to bring people together.

A further finding was that the rules and procedures embedded within university structures prevented both the sharing of food and consumers accessing shared food. Strategies to tackle food waste were viewed through a waste management lens, tackling food waste as a problem of material management rather than changing behaviours that lead food to be wasted, emphasising the need for a greater focus on preventative actions further up the waste hierarchy (Quested *et al.*, 2013; Papargyropoulou *et al.*, 2014).

Spatial limitations were observed as students were unable to access all areas of the campus to collect shared food and staff disapproved of the idea that students would access spaces predominantly occupied by staff. This is supported by the fact that there was an inherent ownership of food. With food delivered by the catering services for meetings, staff disagreed that the food should be shared with others outside their department as well as with students, preferring their immediate colleagues to have first opportunity to consume such food. This suggests that working relationships facilitate sharing and collective food waste prevention despite the disconnect with other food consumption practices such as provision and preparation. Instances where such food was shared however were marked by feelings of guilt as one staff member noted:

“We literally have got no shame in our office, if we’ve had a meeting and there’s loads of food left over, normally it’s because we’ve paid for it, we’ll just clear the lot and take it back to the office” (Academic staff member)

Evident here is the particularly negative attitude towards consuming food that is classified as waste but still in an edible capacity. Recovering food from being wasted was constructed as 'shameful' highlighting that acquiring food by such means is seen as unacceptable. Consumers expressed concern and guilt over obtaining food via re-covering or re-circulation means, a practice that associated with thrift in the home (Cappellini, 2009), exemplifying how a cultural norm influences the conduits of disposal (Evans, 2012a). This is also emphasised in the following discussion during the student focus group on whether freeganism (the practice of reclaiming and eating discarded food) was acceptable.

Student 1: "Access to food is a human right, that's the way she has had to go and get food she shouldn't be prosecuted for that"

Student 2: "but isn't the right to food.... isn't it that you have to be able to obtain food in a socially acceptable way"

"In society it's not really acceptable to be rummaging in bins"

Student 3: "But who is deeming this not acceptable?"

Student 2: "Society is but it doesn't mean it's not a good idea but it's just not normal" (student focus group)

This conversation again shows that interrupting the linear journey of food from creation to disposal is not seen as socially acceptable. Once food is classified as waste by either an individual or an organisation, recovering and then consuming this food is not seen as a normal means through which to acquire sustenance (Nguyen *et al.*, 2014). The findings highlight the difficulty of introducing sharing as a means of changing behaviour due to pre-conceived ideas consumers held about 'leftovers'. As one student notes "we are too prestigious a nation to ask for doggybags" signifying the alienation of practices of sharing and recovery of food outside the home and overall displacement of the prevention and reduction of food wastage from norms of behaviour.

The factors described above give justification for the failure of the social media tool to encourage the prevention of food waste via the practice of sharing. Food waste behaviours were ingrained in practices that transgressed both the university and the home setting. Utilising a practice based approach has revealed how food consumption behaviour is interlinked with other behaviours in the form of sets of actions that determine routines and habits. Any modification or introduction of new behaviours thus involves a degree of negotiation of behaviour located in the habits and routines of the everyday (Berthou, 2013). The study

suggests that agentive aspects of attitudes, values and motivations do not reflect consumer food waste behaviours as well as a motivational gap in that the social media tool required consumers to act on their knowledge and concern for the issue of food waste in order to share food (Vermeir and Verbeke, 2006). Attempting to establish a behavioural norm within a virtual space was also a barrier suggesting that technological applications that encourage new behavioural norms do not easily translate into an up take in sustainable behaviour. Overall there were inconsistencies in the reduction, prevention and re-distribution practices in the study setting with embodied and embedded factors limiting positive environmental behaviours.

CONCLUSION

This study sought to explore consumer food waste behaviour and sharing as a means of preventing food waste using a university as a study setting. Moving away from framing negative environmental behaviour as a problem of the individual, the paper gives insights into food waste behaviours using a practice based approach. Such an approach was critical given the hidden, unrealised nature of food waste, involving an exploration of the everyday routines and habits that were both performed by and influenced consumer behaviour. This enabled an understanding of the role of agentive and structural elements in consumer food waste behaviour as well as the barriers to encouraging behaviour change in the form of a social media tool.

Further understanding of consumer behaviour is critical to addressing food waste within a HEI setting. Food waste within universities can be attributed to an amalgamation of routines and habits with behaviour determined by the prevailing nature of practices and the associated behavioural norms within this space. Such behaviour was found to be encapsulated within embodied and embedded aspects of how we consume and interact with food across its transitions into waste. Embodiment and embeddedness were vehicles that facilitated the transition of food into waste integrating the complexity of practices causing inconsistent and anti-environmental behaviour. A university as a place of work positioned time constraints on eating, emphasising the need for food to be convenient and suit the temporalities of working practices removing thought and ability to prevent food waste. A further vehicle was the visceral way in which consumers interact with food and food waste as well as negotiating trust and the accepted norms of interrupting the linear journey of food into waste such as re-circulating and recovering food.

Consumer's motivations for mitigating food waste could not be connected with their behaviour as shown in the lack of awareness consumers hold for their behaviours that leads to food waste. Without interaction with food in earlier stages of food consumption such as preparation and storage, consumer food waste behaviour can be differentiated between settings, as practices that manage leftovers were not undertaken, suggesting their anchoring within domestic food consumption. The visceral interaction with food, notions of trust and cultural norms around acceptable sourcing of food were barriers to changing and introducing sharing as a means of preventing food waste. The study raises further questions over consumer food waste behaviour in different settings and how different sets of practices interact and influence both food consumption and food waste behaviour. Embodiedness and embeddedness is potentially a framework to be employed in exploring negative environmental behaviours further. Questions are also raised by gap between consumer's motivations and their resulting behaviour with regards to the social media tool as well as consumer's interaction and connection with food via such technological platforms.

ACKNOWLEDGEMENTS

I would like to thank Professor Moya Kneafsey, Dr. Siraj Shaikh and Selina Fletcher at Coventry University and Dr. Caroline Moraes for their help and guidance. This research was supported by the Chartered Institute of Wastes Management under the Defra Masters Support Programme.

REFERENCES

- Abeliotis K, Lasaridi K, Chroni C. 2014. Attitudes and behaviours of Greek households regarding food waste prevention. *Waste Management & Research* 32 (3):237-240. doi: 10.1177/0734242X14521681
- Alexander C, Gregson N, Gille Z. 2013. Food Waste. In *The Handbook of Food Research*, Murcott A, Belasco W, Jackson P. (eds.) Bloomsbury Academic: London; 471-483
- Amit V. 2000. *Constructing the field: Ethnographic fieldwork in the contemporary world*. Routledge: London.

- Armijo de Vega C, Benítez SO, Barreto MER. 2008. Solid Waste Characterization and recycling for a university campus. *Waste Management* 28(1): 521–526.
doi:10.1016/j.wasman.2008.03.022
- Babich R, Smith S. 2010. “Cradle to Grave”: An Analysis of Sustainable Food Systems in a University Setting. *Journal of Culinary Science & Technology* 8(4): 180-190.
doi:10.1080/15428052.2010.535747
- Bellotti E, Mora E. 2014. Networks of practices in critical consumption. *Journal of Consumer Culture*. 0(0): 1-43. doi:10.1177/1469540514536191
- Belkin C, Carrigan M, Szmigin I. 2007. Beyond Recycling: ‘Commons-friendly’ waste reduction at new consumption communities. *Journal of Consumer Behaviour* 6(5): 271-286.
doi:10.1002/cb.221
- Berthou SKG. 2013. The Everyday Challenges of Pro-environmental practices. *The Journal of Transdisciplinary Environmental Studies* 12(1): 53-68.
- Boulstridge E, Carrigan M. 2000. Do consumers really care about corporate responsibility? Highlighting the attitude-behaviour gap. *Journal of Communication Management* 4(4): 355-368. doi: 10.1108/eb023532
- Bray J. 2013. Food Waste – The Policy Perceptive. ‘Waste Not Want Not: Agro-Food Waste Solutions for a Hungry World’. Held 5th March 2013 at The Society for Chemical Engineering HQ. SCI Agri-Food Hub: London.
- Burchell K, Rettie R, Patel K. 2012. Marketing social norms: Social marketing and the ‘social norm approach’. *Journal of Consumer Behaviour* 12(1): 1-9. doi:10.1002/cb.1395
- Cappellini B. 2009. The sacrifice of re-use : the travels of leftovers and family relations. *Journal of Consumer Behaviour* 8(6): 365–375. doi:10.1002/cb.299

Cappellini B, Parsons E. 2013. Practicing thrift at dinnertime: mealtime leftovers, sacrifice and family membership. In *Waste Matters: New Perspectives on Food and Society*, Evans D, Campbell H, Murcott A. (ed.) Wiley- Blackwell: London; 121-134.

Carrington MJ, Neville BA, Whitwell GJ. 2014. Lost in Translation: Exploring the Ethical Consumer Intention–behavior Gap. *Journal of Business Research* 67(1): 2759–2767. doi: 10.1016/j.jbusres.2012.09.022

Caswell H. 2008. Britain’s battle against food waste. *Nutrition Bulletin* 33(4): 331-335. doi:10.1111/j.1467-3010.2008.00723.x

Cook I, Crang M. 1995. *Doing Ethnographies: Concepts and Techniques in Modern Geography*. Environmental Publications: Norwich.

Comber R, Thieme A. 2012. Designing beyond habit: opening space for improved recycling and food waste behaviours through processes of persuasion, social influence and aversive affect. *Personal and Ubiquitous Computing* 17(6): 1197-1210. doi:10.1007/s00779-012-0587-1

Connolly J, Prothero A. 2008. Green Consumption: Life-politics, risk and contradictions. *Journal of Consumer Culture* 8(1): 117-145. doi: 10.1177/1469540507086422

Corradi G, Gherardi S, Verzelloni L. 2010. Through the Practice Lens: Where Is the Bandwagon of Practice-Based Studies Heading? *Management Learning* 41(3): 265–283. doi: 10.1177/1350507609356938

Cox J, Giorgi S, Sharp V, Strange K, Wilson DC, Blakey N. 2010. Household waste prevention – a review of evidence. *Waste Management & Research* 28(3): 193-219. doi: 10.1177/0734242X10361506

Creswell JW. 2007. *Qualitative inquiry & Research Design*. 2nd Edn. SAGE Publications Ltd: London

de Coverly E, McDonagh P, O'Malley L, Patterson M. 2008. Hidden Mountain: The Social Avoidance of Waste. *Journal of Macromarketing* 28(3): 289–303. doi: 10.1177/0276146708320442

DEFRA. 2011 Government Review of Waste Policy in England 2011. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69401/pb13540-waste-policy-review110614.pdf [accessed on 2 December 2012].

Domaneschi L. 2012. Food social practices: Theory of practice and the new battlefield of food quality. *Journal of Consumer Culture* 12(3): 306-322. doi: 10.1177/1469540512456919

European Commission. 2010. Preparatory study on food waste across EU 27. Available from http://ec.europa.eu/environment/eussd/pdf/bio_foodwaste_report.pdf [accessed on 1 February 2013].

Evans D. 2011. Blaming the consumer – once again: the social and material contexts of everyday food waste practices in some English households. *Critical Public Health* 21(4): 429-440. doi:10.1080/09581596.2011.608797

Evans D. 2012a. Binning, gifting and recovery: the conduits of disposal in household consumption. *Environment and Planning D: Society and Space* 30(6): 1123-1137. doi:10.1068/d22210

Evans D. 2012b. Beyond the Throwaway Society: Ordinary Domestic Practice and a Sociological Approach to Household Food Waste. *Sociology* 46(1): 41-56. doi: 10.1177/0038038511416150

Evans D. 2014. *Food Waste: Home Consumption, Material Culture and Everyday Life*. Bloomsbury: London.

Evans D, Campbell H, and Murcott A. 2013. A brief History of food waste and the social sciences. in *Waste Matters: New Perspectives on Food and Society*. Evans D, Campbell H, and Murcott A (ed.). London: Wiley-Blackwell.

Evans D, McMeekin A, and Southerton D. 2012a. Sustainable Consumption, Behaviour Change Policies and Theories of Practice, in *The Habits of Consumption: COLLeGIUM Studies across Disciplines in the Humanities and Social Sciences Volume 12*. Warde A, Southerton D (ed.). Helsinki Collegium for Advanced Studies: Helsinki; 113-129.

Farr-Wharton G, Choi JHJ, Foth M. 2014b. Food talks back: exploring the role of mobile applications in reducing domestic food wastage. In *Proceedings of the 26th Australian Computer-Human Interaction Conference on Designing Futures: the Future of Design*, ACM, University of Technology, Sydney, Australia, 352-361

Farr-Wharton G, Foth M, Choi JHJ. 2014a. Identifying factors that promote consumer behaviours causing expired domestic food waste. *Journal of Consumer Behaviour* 13(6): 393-402. doi: 10.1002/cb.1488

Felder MAJ, Petrell RJ, Duff SJB. 2001. A solid waste audit and directions for waste reduction at the University of British Columbia, Canada. *Waste Management & Research* 19(4): 354-365. doi:10.1177/0734242X0101900412

Fonte M. 2013. Food Consumption as Social Practice: Solidarity Purchasing Groups in Rome, Italy. *Journal of Rural Studies* 32: 230–239. doi: 10.1016/j.jrurstud.2013.07.003

Foster D, Lawson S. 2013. ‘Liking’ Persuasion: Case Studies in Social Media for Behaviour Change. Paper presented at the CHI: Paris, France.

Foster D, Lineham C. 2013. ‘Liking’ Carbon: Can social media play a role in carbon management? *Carbon Management* 4(1): 1-4. doi:10.4155/cmt.12.79

Froehlich J, Findlater L, Landsay J. 2010. The Design of Eco-Feedback Technology. Paper presented at the CHI: Atlanta, USA.

Ganglbauer E, Fitzpatrick G, Comber R. 2013. Negotiating Food Waste: Using a Practice Lens to Inform Design. *ACM Transactions on Computer-Human Interaction* 20(2): 1-24

Giddens A. 1984. *The Constitution of Society: Outline of a Theory of Structuralism*. Polity Press: Oxford.

Goodman MK. 2013. 'Wrapping and Stuffing Food Relationally: Pleasure, Place, Production and Power' in *Wrapped & Stuffed Foods: Proceedings of the Oxford Symposium on Food and Cookery 2012*. McWilliam M. (ed.). Blackawton: Prospect Books.

Goodman MK, Sage C. 2013. *Food Transgressions: Ethics, Governance and Geographies*. Ashgate: Aldershot.

Graham-Rowe E, Jessop DC, Sparks P. 2014. Identifying motivations and barriers to minimizing household food waste. *Resources, Conservation and Recycling* 84: 15-23. doi: 10.1016/j.resconrec.2013.12.005

Halkier B. 2009. A practice theoretical perspective on everyday dealings with environmental challenges of food consumption. *Anthropology of food*. S5

Halkier B, Jensen I. 2011. Methodological Challenges in Using Practice Theory in Consumption Research. Examples from a Study on Handling Nutritional Contestations of Food Consumption. *Journal of Consumer Culture* 11(1): 101–123. doi: 10.1177/1469540510391365

Halkier B, Katz-Gerro T, Martens L. 2011. Applying practice theory to the study of consumption: Theoretical and methodological considerations. *Journal of Consumer Culture* 11(3): 3-13. doi: 10.1177/1469540510391765

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

Hawkins G. 2005. *The Ethics of Waste: How We Relate to Rubbish*. Rowman & Littlefield: Maryland.

HEFCE. 2012. Measuring Scope 3 Carbon Emissions - Water and Waste: A guide to Good Practice. Available from <http://www.hefce.ac.uk/pubs/year/2012/201201/name,68742,en.html> [accessed on 1 January 2013]

Kniazeva M, Venkatesh A. 2007. Food for thought: A study of food consumption in postmodern US culture. *Journal of Consumer Behaviour* 6(6): 419-435. doi: 10.1002/cb.232

Kristensen DB, Askegaard S, Jeppesen LH. 2013. 'If it makes you feel good it must be right': Embodiment strategies for healthy eating and risk management. *Journal of Consumer Behaviour* 12: 243-252. doi: 10.1002/cb.1427

Lund TB, Gronow J. 2014. Destruction or continuity? The daily rhythm of eating in Denmark, Finland, Norway and Sweden in 1997 and 2012. *Appetite* 82(1): 143-153. doi:10.1016/j.appet.2014.07.004

O'Brien M. 2007. *A crisis of Waste? Understanding the Rubbish Society*. Taylor and Francis: Basingstoke.

Mason IG, Brooking AK, Oberender A, Harford JM, Horsley PG. 2003. Implementation of a zero waste program at a university campus. *Resources, Conservation and Recycling* 38(4): 256-269. doi:10.1016/S0921-3449(02)00147-7

Mbuligwe SE. 2002. Institutional solid waste management practices in developing countries: A case study of three academic institutions in Tanzania. *Resources, Conservation and Recycling* 35(3): 131-146. doi:10.1016/S0921-3449(01)00113-6

Mena C, Adenso-Diaz B, Yurt O. 2011. The Causes of food waste in the supplier-retailer interface: Evidence from the UK and Spain. *Resources, Conservation and Recycling* 55(6): 648-658. doi:10.1016/j.resconrec.2010.09.006

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

Moraes C, Carrigan M, Szmigin I. 2012. The coherence of inconsistencies: Attitude-behaviour gap and new consumption communities. *Journal of Marketing Management* 28(1-2): 103-128. doi:10.1080/0267257X.2011.615482

Nguyen HP, Chen S, Mukherjee S. 2014. Reverse Stigma in the Freegan Community. *Journal of Business Research* 67(9): 1877–1884. doi:10.1016/j.jbusres.2013.12.001

Norton B, Costanza R, Bishop RC. 1998. The evolution of preferences: why ‘sovereign’ preferences may not lead to sustainable policies and what to do about it. *Ecological Economics* 24(2-3): 193-211. doi:10.1016/S0921-8009(97)00143-2

Nye M, Burgess J. 2008. Promoting durable change in household waste and energy use behaviour. DEFRA: University of East Anglia.

Papargyropoulou E, Lozano R K, Steinberger J, Wright N, Ujang Z B. (2014) The Food Waste Hierarchy as a Framework for the Management of Food Surplus and Food Waste. *Journal of Cleaner Production* 76: 106–115. doi: 10.1016/j.jclepro.2014.04.020

Parfitt J, Barthel M, Macnaughton S. 2010. Food Waste within Supply Chains: Quantification and Potential Change for 2050. *Philosophical Transactions of the Royal Society B* 365(1554): 3065-3081. doi:10.1098/rstb.2010.0126

Pink S. 2000. ‘Informants’ who come ‘home’. In. *Constructing the field: Ethnographic fieldwork in the contemporary world*. Amit V. (ed.). Routledge: London. 96-119.

Pink, S. 2007. *Doing Visual Ethnography: images, media and representation in research*. 2nd Edn. SAGE Publications: London.

Probyn E. 2000. *Carnal appetites: Food, Sex, Identities*. Routledge: London.

Quested TE, Marsh E, Stunell D, Parry AD. 2013. Spaghetti Soup: The complex world of food waste behaviours. *Resources, Conservation and Recycling* 79(1): 43-51. doi:10.1016/j.resconrec.2013.04.011

Reckwitz A. 2002. Toward a Theory of Social Practices: A Development in culturalist Theorizing. *European Journal of Social Theory* 5(2): 243-263. doi: 10.1177/13684310222225432

Røpke I. 2009. Theories of Practice – New inspiration for ecological economic studies on consumption. *Ecological Economics* 68 (10): 2490-2497. doi:10.1016/j.ecolecon.2009.05.015

Sahakian M, Wilhite H. 2013. Making practice theory practicable: Towards more sustainable forms of consumption. *Journal of Consumer Culture* 14(1): 25-44.
doi:10.1177/1469540513505607

Schatski T. 2001. Introduction: Practice Theory, in *The Practice Turn in Contemporary Theory*, Schatski T, Centina KK, Savigny EV (ed.). Routledge: London

Schuitema G, de Groot JIM. 2015. Green consumerism: The influence of product attributes and values on purchasing intentions. *Journal of Consumer Behaviour* 14 (1): 57-89. doi:
10.1002/cb.1501

Shaw D, McMaster R, Newholm T. 2015. Care and Commitment in Ethical Consumption: An Exploration of the “Attitude–Behaviour Gap”. *Journal of Business Ethics* forthcoming. doi:
10.1007/s10551-014-2442-y

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, Pantzar M, Watson M. 2012. *The Dynamics of Social Practice: Everyday Life and How it Changes*. Sage Publications Ltd: London.

Shove E, Walker G. 2010. Governing transitions in the sustainability of everyday life. *Research Policy* 39(4): 471-476. doi:10.1016/j.respol.2010.01.019

Southerton D. 2001. Consuming Kitchens: Taste, context and identity formation. *Journal of Consumer Culture* 1(2): 179–203. doi:10.1177/146954050100100202

Southerton D. 2012. Habits, routines and temporalities of consumption: From individual behaviours to the reproduction of everyday practices. *Time & Society* 22(3): 335-355. doi:
10.1177/0961463X12464228

Southerton D, Yates L. 2015. Exploring Food Waste through the lens of Social Practice Theories: Some Reflections on Eating as a Compound Practice, in *Waste Management and Sustainable Consumption – Reflections on consumer waste*, Ekstrom MK (ed.). Routledge: London. 133-149.

Spaargaren G. 2011. Theories of Practice: Agency, technology and culture: Exploring the relevance of practice theories for the governance of sustainable consumption practices in the new world order. *Global Environment Change* 21(3): 813-822.
doi:10.1016/j.gloenvcha.2011.03.010

Stancu V, Haugaard P, Lähteenmäki L. 2016. Determinants of Consumer Food Waste Behaviour: Two Routes to Food Waste. *Appetite* 96: 7–17. doi: 10.1016/j.appet.2015.08.025

Stefan V, van Herpen E, Tudoran AA, Lähteenmäki L. 2013. Avoiding Food Waste by Romanian Consumers: The Importance of Planning and Shopping Routines. *Food Quality and Preference* 28(1): 375–381. doi: 10.1111/0022-4537.00175

Thompson M. 1979. *Rubbish Theory: The Creation and Destruction of Value*. Oxford University Press: Oxford.

Tucker C, Farrelly T. 2015. Household Food Waste: The Implications of Consumer Choice in Food from Purchase to Disposal. *Local Environment* 9839(March): 1–25.
doi:10.1080/13549839.2015.1015972

Udehn L. 2002. The Changing Face of Methodological Individualism. *Annual Review of Sociology* 28: 479-502. doi:10.1146/annurev.soc.28.110601.140938

Vermeir I. and Verbeke W. 2006. Sustainable Food Consumption: Exploring the consumer "Attitude – behaviour intension" Gap. *Journal Of Agricultural & Environmental Ethics* 19 (2): 169-194. doi:10.1007/s10806-005-5485-3

Welch D, Warde A. 2015. Theories of practice and sustainable consumption. in *Handbook on Research on Sustainable Consumption*, Reisch LA, Thørgersen J (ed.). Edward Elgar Publishing Ltd: Cheltenham; 51-69.

Wallenborn G, Wilhite H. 2014. Rethinking embodied knowledge and household consumption. *Energy Research & Social Science 1*: 56-64. doi:10.1016/j.erss.2014.03.009

Warde A. 1997. *Consumption, Food & Taste*. Sage Publications Ltd: London.

Warde A. 2005. Consumption and Theories of Practice. *Journal of Consumer Culture 5*(2): 131–153. doi:10.1177/1469540505053090

Warde A. 2014. After taste: Culture, consumption and theories of practice. *Journal of Consumer Culture 14*(3): 297-303. doi:10.1177/1469540514547828

Warde A, Southerton D. 2012. Introduction, in *The Habits of Consumption: COLLeGIUM Studies across Disciplines in the Humanities and Social Sciences Volume 12*. Warde A, Southerton D (ed.). Helsinki Collegium for Advanced Studies: Helsinki. 1-25.

Waston M, and Meah A. 2013. Food, waste and safety: negotiating conflicting social anxieties into practices of domestic provisioning, in *Waste Matters: New Perspectives on Food and Society*. Evans D, Campbell, H Murcott, A (eds.) Wiley & Sons: Oxford; 102-120.

Wilhite H. 2012. Towards a better understanding of the role of body, things and habits in consumption, in *The Habits of Consumption: COLLeGIUM Studies across Disciplines in the Humanities and Social Sciences Volume 12*. Warde A, Southerton D (ed.). Helsinki Collegium for Advanced Studies: Helsinki; 87-99.