Cooking Without Thinking: How Understanding Cooking as a Practice can shed new light on inequalities in healthy eating

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Cooking Without Thinking: How Understanding Cooking as a Practice Can Shed New Light on Inequalities in Healthy Eating

1. Introduction

What we eat is now the number one cause of preventable death globally (Forouzanfar et al., 2015). In the UK, diet-related ill health accounts for 18% of all deaths and places a massive burden on our health system - more than alcohol consumption, smoking and physical inactivity combined (PHE, 2017; BMA, 2016). There is evidence that our dietary health is strongly linked to social determinants, especially when it comes to eating fruit and vegetables (Maguire & Monsivais, 2015; Whybrow et al., 2017; Darmon and Drewnowski, 2008 & 2015; White, 2007). These dietary differences contribute massive discrepancies in life expectancy and disability-free life expectancy – currently people in high deprivation areas of the UK can expect to live up to 9 years less and 17 years less in good health than people born in low deprivation areas of the country (Marmot et al., 2010).

This global rise in diet-related illness has been paralleled by a worldwide boom in foods mass produced through industrial processes which tend to be characterised by being high in fats, salts and sugars and low in fibre, micronutrients and phytochemicals (Monteiro et al., 2010; Moubarac et al., 2014; Ministry of Health of Brazil, 2014). These so-called 'ultra-processed' foods are almost a third of the price of less processed foods per calorie and this price gap is growing (Jones et al., 2014; Wiggins et al., 2015). They dominate supermarket shelves in high income countries, accounting for the majority of price promotions and over half of the calories sold in the UK (Monteiro et al., 2018a; Which, 2016; Health Select Committee, 2017; Monteiro et al., 2013). They have also been linked to an increased risk of diet-related non-communicable diseases (Rauber et al., 2018) as well as weight gain and obesity (Mendonca et al., 2016; Canella et al., 2014; Juul & Hemmingsson, 2015).

Eating less of these ultra-processed foods and more unprocessed and minimally-processed foods (such as fruits, vegetables, whole grains, pulses, etc.) is used as a good yardstick of 'healthy eating' in this article, as this fits well with current scientific understandings of

nutrition and is also simple enough to be easily applied to everyday eating accounts (Adams & White, 2015; Monteiro et al., 2018b; Poti et al., 2015). Ultra-processed foods are not just nutritionally different - they also require different preparation techniques to ready them for eating, being typically offered in a convenient, 'ready to eat' or 'ready to heat' form, requiring little time or effort to prepare (Monteiro et al., 2018a; 9; Hartmann et al., 2013). While some foods with a high vegetable content are available in convenient ready to eat forms these often carry a high 'health premium', taking them out of the regular consumption possibilities of those on a budget, widening an already large price difference between 'healthy' and 'unhealthy' foods and exacerbating a growing healthy eating gap (Wiggins et al., 2015; Jones et al., 2014; Future Market Insights, 2017).

Thus, especially for those on a budget, it seems that shifting everyday food consumption away from ultra-processed foods will require a shift in accompanying preparation practices towards more cooking 'from scratch' using basic ingredients - counter to current trends in developed countries (Moser, 2010; Smith et al., 2013). Whilst it is true that cooking more frequently with basic ingredients does not guarantee a healthier diet, it is also true that eating healthily is very hard to achieve on a tight budget without cooking. Cooking with basic ingredients has been linked to reduced food expenditures and better dietary quality (Tiwari et al., 2017; Mills et al., 2017).

Many campaigns and public health interventions have tried to increase cooking with basic or 'minimally processed' ingredients by providing cooking classes but evidence of the effectiveness of such interventions is lacking (Rees et al., 2012; Adams et al., 2015). Part of their limitation may be due to a focus on overly standardized, one-off cooking performances, which neglect the specific histories and contexts in which cooking occurs in real life and an over-dependence on recipes, which were "relied upon despite no clear evidence that recipes move people from knowledge to action" (Wolfson et al., 2017; 1147).

In contrast, this article will use a practice theory approach to prioritise situated everyday performances of cooking and to explore the non-conscious aspects driving them. Through focusing on cooking as a social practice largely determined by unevenly distributed materials, meanings and competences this approach radically questions the perceived importance of

individual willpower and intention in determining diets. Instead of providing individuals with ever more information about what or how they should be cooking, a practice approach prioritises changing the unthinking elements which establish cooking habits and perpetuate inequalities in unhealthy eating in the first place. Previous academic studies have already demonstrated the potential benefits of adopting a practice-theoretical approach to cooking and eating and have made a significant contribution to cooking scholarship in a wide range of areas, including typologizing everyday cooking styles (Halkier, 2009), exploring the interaction of elements of cooking through auto-ethnographical videos (Torkkeli et al., 2018), examining how a new type of food processor affects cooking habits (Truninger, 2011), considering the translation of cooking classes into daily practices (Dyen & Sirieix, 2016) and even using cooking practice to explore the conditions and constraints giving rise to creative behaviours (McCabe & de Waal Malefyt, 2015). However, few practice-based accounts have focused on healthy eating and few, if any, have adopted a practice-based approach to explore inequalities in healthy cooking and eating. Indeed, the intersection of the mundane micro-scale doings of everyday life and macro-scale social inequities in general has been under-researched by existing practice-theoretical accounts, which have largely failed to grapple with broader social inequalities (Sayer, 2013; Walker, 2013). We argue that this gap is to the detriment of both theories of practice and our understandings of inequalities in healthy eating.

A wide body of existing scholarship around food inequalities has demonstrated the significance of many non-conscious 'elements' when it comes to the health of eating behaviour and demonstrated how these vary according to socioeconomic deprivation. This paper draws on long traditions of research on the impact of material factors, such as high price premiums for healthy foods (Jones et al., 2014, Darmon & Drewnowski, 2015), 'food deserts' with limited access to fresh fruit and vegetables (Walker et al., 2010; Burgoine, 2017; Ver Ploeg et al., 2010) and 'food swamps' with an over-abundance of fast food outlets and convenience stores (Cooksey-Stowers, 2017; Maguire & Monsivais, 2015). We also draw on research that focuses on the meanings and symbolism of food consumption which several authors have shown can differ between socio-economic groups. For example, Fielding-Singh & Wang (2017) and Plessz & Gojard (2015) found that understandings of 'quality' food varied between socio-economic groups. Similarly, other research has indicated that different social

groups value food in different ways; with pleasure and satiation from food more prominent among 'working-class' consumers and more future-oriented health benefits prioritised by 'middle-class' consumers (Vandebroeck, 2016; Backett-Milburn et al., 2010; Wills et al., 2011).

By bringing together insights from these literatures with those of practice-theoretical approaches, we seek to produce an account that contributes to both research on food inequality and to the development of theories of practice. In particular, we contribute to research on inequalities in healthy eating by demonstrating the importance of the habitual aspects of health behaviours (Maller, 2015) and we contribute to theories of practice by demonstrating the importance of linking rich micro-empirical studies to broader constellations of power.

The paper starts by briefly outlining a practice-based understanding of action and describing the sequential mixed-methods research design and tools used to study and analyse the cooking practices of mothers living in areas with different levels of deprivation. Based on this data it argues for an understanding of cooking as a practice that is mostly performed with little conscious thought and as such depends on having the right web of materials, meanings and competences more than increased intention, more knowledge or new recipes. We will then consider the implications of this approach for understanding inequalities in (un)healthy eating.

2. A practice-based understanding of action

Viewing everyday activities such as cooking or eating as practical rather than rational undertakings fits well with lay understandings of cooking as a skill or an art and indeed this would be a first step towards embracing a practice-based perspective. However, whilst practice theory builds upon these types of popular understandings of 'practice,' it also goes much further to provide an innovative and nuanced ontology of social life which decentres human agency and focuses attention on the complex webs of materials, meanings and competencies that constitute everyday action. In this section, we outline this more theoretically-informed, notion of 'practice' and we demonstrate its potential value in relation to studies of healthy cooking and eating. Furthermore, we argue that rather than being at

odds with more macro-scale or structural approaches, practice-theoretical accounts can complement and enhance our understandings of the broader dynamics of power, injustice and deprivation.

Practice-theoretical approaches share a foundational understanding that most of our actions are habitual and situated, occurring without much conscious attention rather than rationally decided from a blank slate every time. Though a broad church, proponents generally share a focus on practical action, giving precedence to "doing over thinking, practical competence over strategic reasoning, mutual intelligibility over personal motivation and body over mind" (Warde, 2013; 18). They contend that traditional models of health intervention are overly preoccupied with humans as 'individual choice and action' making creatures (Warde, 2005; 131) to the detriment of the large proportion of our lives in which our actions are distracted, determined more by habit and context than intention. Without denying that human action is punctuated by "irregular and occasional moments of attention and reflection" (Warde, 2014a; 292) practice theories focus on the norm of conduct which is not consciously chosen from scratch every time. This is supported by recent developments in cognitive science which argue that when it comes to everyday conduct it is automaticity rather than conscious thought which characterizes the dominant brain system (Thaler and Sunstein, 2008; Kahneman, 2011). From a practice perspective what is important is not the technicality of what our brain is or is not involved in processing but rather what we are phenomenologically aware of. The relevant distinction is between conscious cognition, involving conscious awareness, 'choice' and 'reflective and rational' thought (Gram-Hanssen, 2008; Thaler and Sunstein, 2008; 18) and all the other factors which influence our actions - considered together as the 'non-conscious' elements of practice. Although "people can discursively account for their actions, often framing them in terms of conscious purposes and intentions… the greater part of the processes at stake do not lie within the realm of discursive consciousness" (Shove et al., 2012; 3).

Searching for health interventions from this foundation shifts the whole context of enquiry, explicitly limiting the potential of appeals to individual rationality and 'willpower' (Kegan, 1998). Based on this often overlooked understanding, research utilising a practice theoretic perspective is well placed to respond to the growing need for public health interventions to

pay heed to these less conscious elements of health behaviour (Maller, 2015; Sheeran et al., 2013) and should be able to bring novel and useful insights to healthy eating interventions which are currently dominated by a focus on educating the conscious mind and the rationality of making healthy choices (Capacci et al., 2012).

What then is a 'practice'? According to Reckwitz's popular definition, a practice is:

> "a routinised type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, things and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge. A practice… [forms] a 'block' whose existence necessarily depends on the existence and specific interconnectedness of these elements, and which cannot be reduced to any one of these single elements" (2002; 249–250).

As this definition sets out, even the simplest practices of our lives are made up of a host of different elements. Every practice consists of all of these elements and emerges from their interrelation. In a popular simplification of Reckwitz's elements of practice, Shove et al. (2012) group them into three types: material, competence and meaning. 'Material' encompasses "objects, infrastructures, tools, hardware and the body itself." 'Competence' covers "multiple forms of understanding and practical knowledgeability" such as the skill involved in kneading bread. Finally, 'meaning' is used "to represent the social and symbolic significance of participation at any one moment… [a way of characterizing] meaning, emotion and motivation" (Shove et al., 2012; 23). Thus, from a practice approach, healthy cooking requires the confluence of an interconnected web of elements encompassing the materials, meanings and competences involved in repeatedly carrying out food preparation behaviours which promote health (Delormier, 2009, 221; Maller, 2015). Through focusing on the interconnection of these non-conscious elements involved in the situated doing of cooking, taking a practice approach puts habitual doing centre stage, acknowledging that food preparation performances are a product of the patterns of our lives as much as our intent.

As previously noted, a host of academic studies have already demonstrated the potential benefits of adopting a practice-theoretical approach to cooking and eating and have made a

significant contribution to cooking scholarship (see Halkier, 2009; Torkkeli et al., 2018; Truninger, 2011; Dyen & Sirieix, 2016; McCabe & de Waal Malefyt, 2015). However, few practice-based accounts have focused on healthy eating and few, if any, have adopted a practice-based approach to explore inequalities in healthy cooking and eating. In some ways this is surprising, as practice-theoretical accounts which focus attention on socio-material circumstances over individual agency by their very nature would seem to be an ideal tool for exploring social inequality (see Spurling et al., 2013). In other ways this gap is to be expected as, despite the initial ambitions of practice-theorists to use the notion of practice to overcome divisions between structure and agency, the majority of empirical studies adopting a practice-theoretical approach have tended to focus on the rich detail of performances and have not necessarily linked this micro-level analysis with larger scale constellations of power and inequality. This has led to criticism from authors such as Sayer (2013) who identifies a lack of attention towards inequality as a weak point of practice-based research to date and Walker (2013; 359) who states that, it is surprisingly "hard to find examples of research that is inspired by theories of social practice… that directly engages with the reproduction of social inequality and injustice." However, there is now evidence that this is beginning to change, as more recent scholarship by key practice theorists, such as Warde (2014) and Schatzki (2016) has attempted to rethink the links between ostensibly 'small' practices and ostensibly 'large' networks and constellations of power.

This paper contributes to this emerging field of enquiry by exploring the links between everyday practices of healthy cooking and eating and broader structures of inequality and deprivation. More specifically, we adopt a comparative case study design to examine the ways in which social deprivation can impact upon the materials, meanings and competencies of cooking practices in ways that severely limit the capacity for those in more deprived areas to frequently cook with less-processed ingredients.

3. Methodology

This paper adopts a mixed-methods approach to examining social practices of cooking, combining in-depth qualitative research with 25 mothers of young children in different areas of Bristol with a questionnaire survey of 310 mothers. The qualitative research consisted

primarily of carefully designed 'practice-oriented' interviews[1], each lasting between 60-90 minutes, and detailed ethnographic observations with a smaller subset of 6 of these mothers. The quantitative survey was then designed specifically to complement and expand upon these qualitative results and, as such, focuses on certain specificities and peculiarities of practice that would ordinarily be beyond the scope of traditional stand-alone survey research but which we believe to be insightful.

Participants were selected from two wards of Bristol which represented different socioeconomic contexts, as measured by the index of multiple deprivation (ranked in the 1st and 7th most deprived deciles nationally – see Bristol City Council, 2015). Mothers were chosen to be the study participants because they still tend to be at the centre of what the household eats - doing more of the food-work than fathers in 2/3 of cases according to a recent study (O'Connell & Brannen, 2016; Carrigan & Szmigin, 2006; Elfhag, et al., 2008; Draxten et al., 2014). As a wide literature attests, the context of mothering in itself is clearly important in shaping eating practices (Fielding-Singh & Wang, 2017; Harman & Cappellini, 2015; Malhotra et al., 2013; McCabe et al., 2015; McIntosh et al., 2010; Carrigan & Szmigin, 2006; Bugge & Almås, 2006) and would be worthy of a separate study in its own right. In this paper, whilst we do discuss certain differences around expectations and performances of motherhood between different social groups, it is fair to say that these are not as central to our account as the connections between social inequality and cooking practices more generally.

There is a live debate about the best methods for collecting empirical data on practices. Some authors have utilised traditional social science research tools individually, whether seeing ethnographic observation as the 'gold standard' for practice research (e.g. Truninger, 2011) or embarking on quantitative analysis of time diaries (Cheng et al., 2007) or interviewing participants about their practices (e.g. Paddock, 2017; Twine, 2014; Southerton, 2006). However, another group of scholars argue for the triangulation of research tools (e.g. Carolan,

[1] The interviews were 'practice-oriented' in that they sought to ground participants in situated performances of eating, engaging with them as practitioners as much as agents. The tools used to achieve this are discussed later in this section, including using data from eating practice diaries, asking for description more than opinion and interviewing participants in spaces where they routinely cook.

2017; Warde, 2014b), claiming that as practices are substantially habituated into invisibility they will "always need to be brought to the fore… to be made visible" and as a complex, "multifaceted and multi-dimensional phenomenon… can only be approached through a toolkit-logic and a collage… approach" (Nicolini, 2009; 200 & 215). This latter, multi-method, approach provides a better fit with our understanding of the nature of practices. Firstly, because practices are constituted by particular situated performances as well as wider social patterns, they are best comprehended by adopting in-depth qualitative/ethnographic approaches *in conjunction with* tools more geared to exploring larger scale patterns. Secondly, as practices include what people are aware of and able to talk about as well as a vast array of mundane and non-conscious elements (which can escape conscious reflection) research tools must endeavour to access the non-conscious aspects of action as well as what participants might say. Accordingly, the design of the research underlying this paper adapted a suite of traditional qualitative and quantitative social science tools and used them in conjunction to address the epistemological challenge of accessing situated, mundane and largely non-rational cooking practices in very different socioeconomic contexts. These methodological techniques, included moving to live in each of the two study areas, collecting 5-day eating practice diaries and grocery receipts from participants, practice-oriented interviews, meal preparation observations and a more widely distributed survey informed by the analysis of the data from the preceding tools. The argument in this paper will draw primarily on data from the last three research tools in this methodological tapestry.

3.1. Practice-oriented interviews

While still using interviews as a major part of the research design, these were grounded as closely as possible in recent real-life performances of a given practice. One way this was done was through the use of 'prompts' about recent eating events. As Kwasnicka et al. found in their use of 'data-prompted' interviews, "combining various sources of data to stimulate the interview provides a novel opportunity to enhance participants' memories" (2015; 1191). The prompts used in the interviews in this study came from 5-day eating practice diaries which participants had completed previously as well as their grocery receipts from the same period. These provided personal, recent, real-world examples capable of tying participants' responses as much as possible to potentially unmemorable practical realities and recent cooking practice performances over abstract memories or self-theorising rationalisations of

their eating habits (similar to the use of photo diarisation in Halker & Jensen, 2011). Another way that practical realities were put back into discursive reflections was through asking participants to descriptively *re-live* the process of making a particular meal mentioned in their diaries instead of interpretively *explaining* it. This was inspired by 'memory work' techniques designed to generate "descriptions of scenes or events that are rich in circumstantial detail… such a focus on 'being in' a situation (as opposed to 'thinking about' it) implicates both body and mind" (Willig, 2001; 133; Brown et al., 2011).

3.2. Meal preparation observations

Proceeding as a sequential mixed methods design (Teddlie & Tashakkori, 2009; Feilzer, 2010) each tool built upon the insights and rapport accumulated by those preceding it. After meeting participants 3 times, some of them were asked if they would be happy to be observed on an occasion when they were preparing a meal for their family. As Hargreaves points out, "social practice theory directs research attention towards the practical accomplishment or 'doing' of everyday practices. Accordingly, it implies the use of methodological techniques capable of observing what actually happens in the performance of practice" (2011; 84). While the meal preparations were obviously staged performances in many ways, observing what participants actually did and the tools they used provided an opportunity to note the automatic competences and mundane materials involved in food preparation which are so normal they are easily overlooked by participants who no longer need to pay them any attention and certainly wouldn't consider worth mentioning in an interview. Both interviews and observations were conducted in participants' own homes as these were the sites of their routine eating practices.

3.3. Eating habits survey

Following analysis of the data gathered from the tools described above an 'eating habits' survey was designed based on the elements which were highlighted as key to eating both unprocessed and ultra-processed foods. The survey was kept short to minimize barriers to participation and drop-out rates (estimated 10 minute completion time with a low fatigue rating by the Surveygizmo software) and gained 310 complete responses. The questions were designed to see if the insights from the analysis of the more in-depth data generated by the previous tools from only 25 participants would be borne out in a larger sample. Questions

focused on areas in which inequalities had been marked in the in-depth qualitative research, including elements of cooking practices, elements and practices connected to eating unprocessed foods and systemic inequalities in the provisioning of healthy foods. A final section focused on the enjoyment and taste of both processed and unprocessed foods.

The survey was distributed via Facebook groups and efforts were made to recruit a mixture of mothers from both high and low IMD areas of the city. Although a higher proportion of survey respondents were above average in relation to education and household income levels (Department for Work and Pensions, 2017) there were still sufficient numbers of respondents within different socio-demographic categories to achieve statistically significant relationships between many variables measured, even for the underrepresented lower income and education respondents (figs 1 & 2). Following up the more in-depth data analysis with a survey in this way provided some test of the generalisability of the insights gained from studying the particular micro-practices of individuals (Plano Clark et al., 2010; 159).

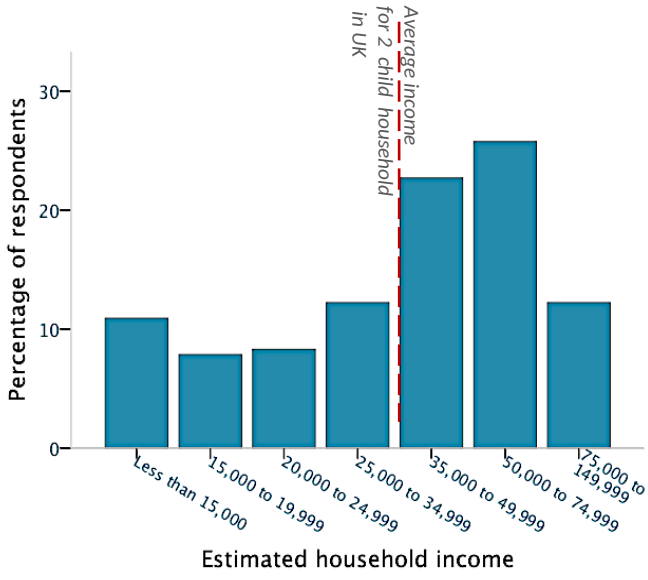

Fig. 1. Income distribution of survey respondents

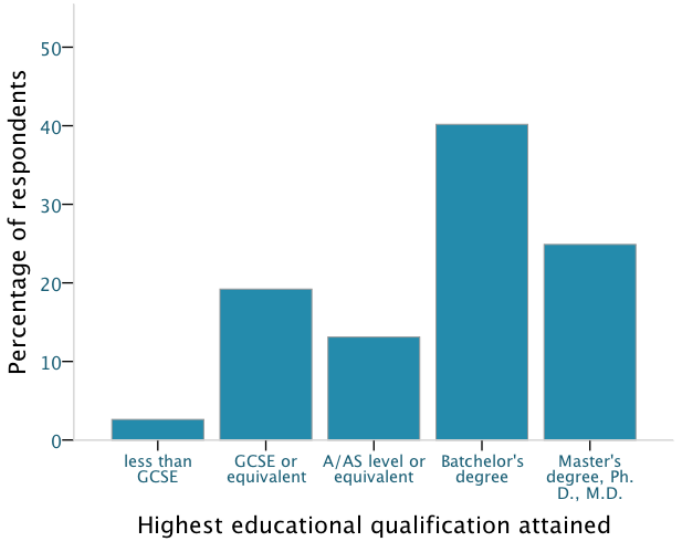

Fig. 2. Education distribution of survey respondents

3.4. Ethical Considerations

This research design was reviewed and approved through the ethics procedure of Coventry University. All participants were compensated above minimum wage for their time to value their contribution and encourage participation from lower income areas. Participant information sheets explained the nature of the study, participation and compensation in

advance. Consent was secured for participation and recording of data. Participants could withdraw from the study without reason or fear of losing their payment.

In the remaining sections of this paper, the data collected from this array of complementary methods will be used firstly to demonstrate the validity and value of viewing cooking as a practice and secondly to examine some of the two-way relationships between the minutia of everyday cooking practices and broader constellations of social inequality and deprivation.

4. Understanding cooking as a practice

Cooking is inherently practical. As one mother mentioned:

> *"I think sometimes it's more of a knack… some people just don't have common sense… because I've been cooking a certain amount of years, I'm used to doing certain things. And there are some people I know follow the instructions dead-on and they still won't work out right" (Amanda)*

In interviews, participants who were confident cooks repeatedly told me that they learned to cook a particular dish by 'just reading the recipe', but this understanding in itself betrays the extent to which what we are conscious of is only the visible tip of an iceberg of elements which together result in our cooking performance. In this section we will draw on one of our meal preparation observations - Alice's biryani - to reframe cooking as a habitual practice and demonstrate the importance of materials, meanings and competencies in preparing a meal.

When she started cooking her family's meal for the evening, Alice said the biryani she was going to make was "actually a weightwatchers recipe." Yet, although this dish may have consciously started with reading a recipe, cooking it with her, in her immaculate home kitchen with all the ingredients set out in the right quantities and her 3 year-old daughter sat at a small table quietly 'making play-dough cakes' at our feet, gave me a window into some of the elements which converged in this cooking performance. Many of them had developed over histories which started long before she read the recipe and had been repeated and combined in so many performances that they no longer required much conscious attention, making cooking this dish feel "just as easy to cook as it is to open a jar."

> *"I'm quite a gadget person when it comes to the kitchen. My husband goes mad – he's like 'really? Do you really need that?'… [but] it makes cooking easier… if you've got the right tools"*

The materials of her biryani included white goods such as a fridge, freezer, microwave and hob, the ingredients, the money allocated to buy them and the space in which to store and prepare them, plus a host of equipment integral to her specific practices: cooking scissors to cut the chicken with; a shiny Tefal pan so she doesn't need lots of oil to stop sticking; sharp knives for ease of chopping and a handheld knife sharpener for their upkeep; a tri-folding 'chop to pot' chopping board so ingredients make it to the pan with less attention; a particularly easy to use £15 garlic crusher and a compact foldable colander to free up limited storage space.

> *"we're just constantly talking about food.. in the admin office… people come in and they go, 'oh my gosh, you're talking about food, again'… like recipes, what we're having for dinner, what we're having for lunch"*

The meanings underlying making this dish included choosing a weightwatchers recipe because she wanted to put "good things into my body" and repeating this particular one because it freezes well for bulk cooking which is important to avoiding the temptation of takeaways. Other meanings helped motivate her to cook 'from scratch', such as her understanding of cooking as something she enjoys and is interested in, talking about it often with friends, trying a recipe a week and loving "watching the cooking programmes," and her established belief that it has health benefits to her and her family "I just think the less junk you can give her [daughter] the better - at least you know what's going in there" – meanings which have been found to be more widely associated with home cooking frequency (Garcia et al., 2017; Hartmann et al., 2013; Wolfson et al., 2016). It also fitted her need to do something for the people she loves as "it's quite a winner with everybody, so I tend to make it quite a lot really" – an important meaning of cooking for many mothers (Sidenvall et al., 2000).

> *"the carrots just look still a bit too hard… so I would just leave that for a bit… when they're not cooked, they've got that really shiny iridescent kinda*

look I suppose, they get fuller in colour I suppose – the colour's more bold… Not brighter… I don't know, it's really hard to explain!"

Though skills are frequently referred to when discussing cooking, these are typically limited to techniques of preparation, skimming over the vast array of practical and embodied competences used in meal preparation (Short, 2006). In making the biryani Alice employed a wide range of techniques and knowledges: cutting meat with scissors, peeling carrots, dicing onions, chopping carrots into slices, apples into cm cubes, frying onions until soft and the chicken until brown, cooking the carrots directly in the sauce and changing the heat to achieve desired effects: "the carrots can go in there now… that just needs to cook now for about 20-25 minutes – just bring it up to the boil for a bit." Some of these she knows with her senses, but struggles to articulate how – such as what the carrots look like when cooked, or how she knows the dish is ready because the sauce "look[s] like a curry." Her competences include awareness of a range of timings, such as taking the chicken out of the freezer in the morning to defrost, putting ingredients in the pan at the right intervals to allow each the right cooking time and having dinner ready according to different family members needs: "[I] usually cook at 4 on time for Elsa to eat hers and re-heat for her and Chris later. If I leave it too late for Elsa she'll get past wanting to eat." She knows which is the best chicken to buy to fit her budget and recipe needs, how she can adapt the recipe by adding yoghurt so it's not too hot for her daughter, and what will keep her entertained for long enough so she can cook with minimal disruption.

None of these elements were mentioned in the initial recipe, but together they are what made this accomplished cooking performance possible without much conscious effort. Although they may not have been combined as they were in making the biryani recipe, most of the collection of non-conscious elements called for have been used before and developed through repetition in many previous and contiguous practices.

This section has demonstrated that beyond rational thought or intention, cooking requires the right web of non-conscious elements. Across all the interviews conducted, the further the elements implicitly required by a new dish departed from those mothers had established in oft repeated habits (enough to do 'without thinking') the more time and effort was required

in translating the meal from instructions to plate. As Ruth found trying to cook Indian food: "I find it really hard, because I don't understand the flavours enough to go, 'Oh, it needs a bit more of that, or more of that.'" Meals made regularly "are the ones I like doing because you don't have to think about it" (Sandy). Far from being typical, high conscious involvement in cooking performances is hard and requires the kind of effort which is only possible as an exception to the norm. Most of the time we cook what it is easy for us to do without thinking. These unthinking defaults are composed of mundane materials, meanings and competences which are largely beyond the reach of individual control. In the next section, we further develop this practice-based understanding of cooking by considering how socio-economic differences can impact upon these 'background' elements to make cooking with minimally processed ingredients relatively harder for those living in more deprived conditions.

5. Understanding inequalities in cooking practices

This section will use data from two meal preparation case studies, the practice-oriented interviews and the eating practice survey results to explore how inequality is played out in the development and performance of cooking practices. The perspectives of these three tools provide insights at different levels - from very intimate and specific observations of cooking practice performances, to similarities and differences in interview descriptions of cooking practices across two different locales, to socioeconomic correlations in the distribution of these practices from the eating practice survey. The cooking observation case studies are of Katie and Katherine who I joined at their homes while they were making an evening meal for their families. Both cooked dishes they knew well and performed without recipes while solely responsible for two children under 6. Katie was a single full-time mother of two, living on state benefits who had never moved from the council house in which she was born in one of the most deprived areas of the country – ranked 1 out of 10 on the Index of Multiple Deprivation (IMD). Katherine was a married, full-time mother of three who lived on her husband's income in a house they owned and had lived in for the last 15 years in an area of very low deprivation – ranked 7 out of 10 on the IMD. Together with the interviews and survey findings these cases illuminate how socioeconomic inequalities can translate to inequalities in cooking practice through skewing the non-conscious elements which determine the ease of different food preparation behaviours.

5.1 Differences in the materials involved in food preparation

Differences in the material elements supporting cooking practices are perhaps the most apparent non-conscious inequities, as they are often directly tied to the economic contexts of people's lives. More deprived areas have been referred to as 'food deserts' due to the lower availability of vegetables (Walker et al., 2010; Burgoine, 2017; Ver Ploeg et al., 2010) and 'food swamps' due to their much higher relative density of fast food outlets (Cooksey-Stowers, 2017; Maguire & Monsivais, 2015). There is also the obvious impact of different budgets on the affordability of vegetables which tend to be more expensive than ultra-processed foods, certainly per calorie (Jones et al., 2014).

Both Katie and Katherine talked about money affecting the food that they could buy. For Katie money was a stressful constraint limiting the amount of fruit and vegetables she cooked with, as "obviously fruit and veg is so expensive… and they're still hungry". In contrast Katherine could buy whatever she liked but used her disposable income to get extra ingredients when they were especially good value: £3.50 was cheap for a whole box of blueberries so she bought all of the grocer's stock to save for future meals. Similarly the £2.45 Katherine spent on a 'great value' massive tub of herbs to make her dishes more exciting is still a sizable one-time outlay on something non-essential and likely to be too big a barrier for Katie, for whom £2 puts a punnet of grapes outside her budget.

In addition to the skewed topography for purchasing the basic ingredients necessary for healthier cooking, there were also important differences in Katie and Katherine's domestic environments which worked to either hinder or facilitate (healthy) food preparation and cooking. With strict money and space constraints, Katie hasn't changed the electric hob she's always used but which makes cooking slower and harder to adjust. Without these limits Katherine made sure her hob was fit for purpose, as well as investing in specialised equipment to take on some of the effort of cooking, such as a bread maker which makes her pizza dough because "I'm not messing around with that unless I need to – it's too much of a faff" and a dishwasher that she "couldn't live without" to do the mountain of dishwashing which her prolific cooking generates.

Katie's one living space had no dining table, but instead a small pink coffee table with 2 tiny chairs around it for her children. As the only table in the house it had to be multi-purpose: the children played on it with crayons and glitter glue pens while Katie cooked above them, it's multi-functionality meaning it was necessarily messy every time she wanted to use it for dinner. Furthermore, having only a tiny pack-away children's table increased the relative appeal of convenience meals for Katie, who commented that "obviously, cos I don't have a big table and chairs you don't usually sit down to eat." As a result Katie tended to gravitate towards meals that she could eat with her hands and "put by me on the sofa" over eating more elaborate cooked meals which mean "we've got to sit at the table cos of the mess." Katherine's house by contrast had a whole room for eating in, with a large table dedicated to this purpose and enough chairs for the whole family, making it easy to eat family meals around it. This socially striated difference in eating tables also came out very strongly in the survey data (see figs 3 & 4) with respondents from more deprived areas tending to have tables which were less easy to eat on.

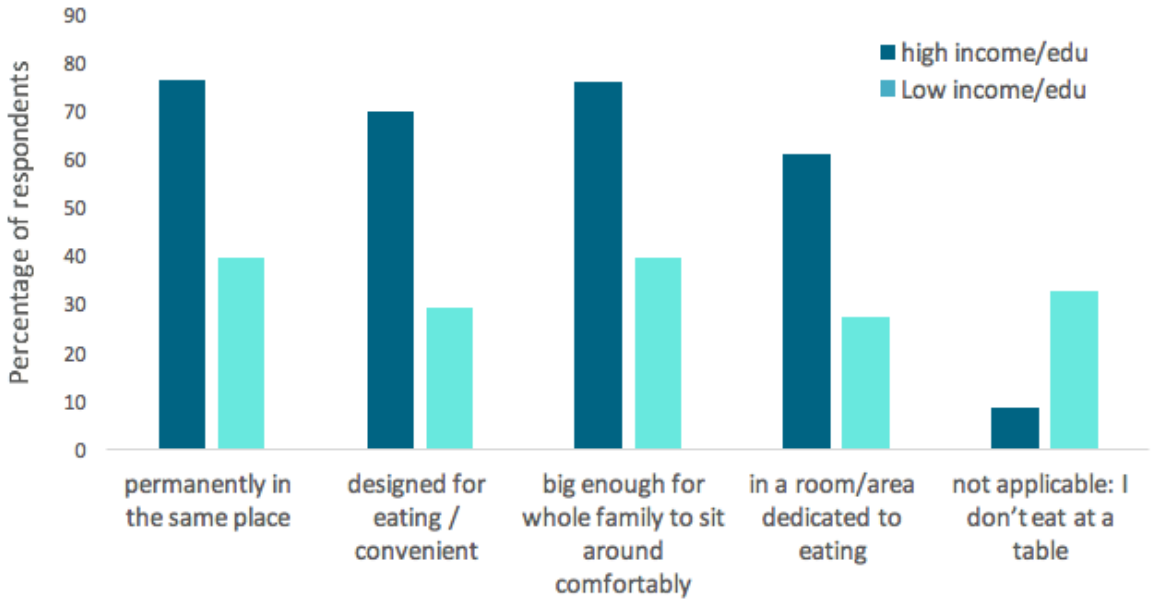

Fig. 3: characteristics conducive to easy family eating of table most frequently eaten on

Though small, in combination these small inequities in mundane materials amount to placing an effort premium on eating at the table at every meal occasion. Most of the mothers found eating around a table to be an effort at times but the effort required is unequal, partly

because of differences in the quality of mundane materials like dining tables. The survey confirmed that the more suitable their table was for eating on, the less effort respondents said it was to eat at the table with their children (spearman's rank, r = - 0.32, p > 0.001) and the less they felt too tired to eat at the table (r = - 0.32, p > 0.001). Among those living in more deprived, low IMD areas, the less suitable their table was for eating on and the more effort they found eating at the table the more they were likely to enjoy eating ultra-processed foods (r = 0.428, p = 0.013; r = 0.499, p = 0.003). Additionally, across respondents, the less easy their 'dining table' was to eat on the more likely survey respondents were to eat in front of the television (r = 0.426; p < 0.001) – an activity very highly correlated with eating ultra-processed foods (r = 0.256, p < 0.001).

Through shaping the availability and affordability of ingredients, the amount of fast-food meal alternatives, and the ease of cooking and eating minimally-processed foods in our homes, the materials we are surrounded by are crucial to determining our non-thinking default food preparation practices. Socioeconomic inequities affect the distribution of these materials and thus impact upon the relative ease of cooking healthier meals.

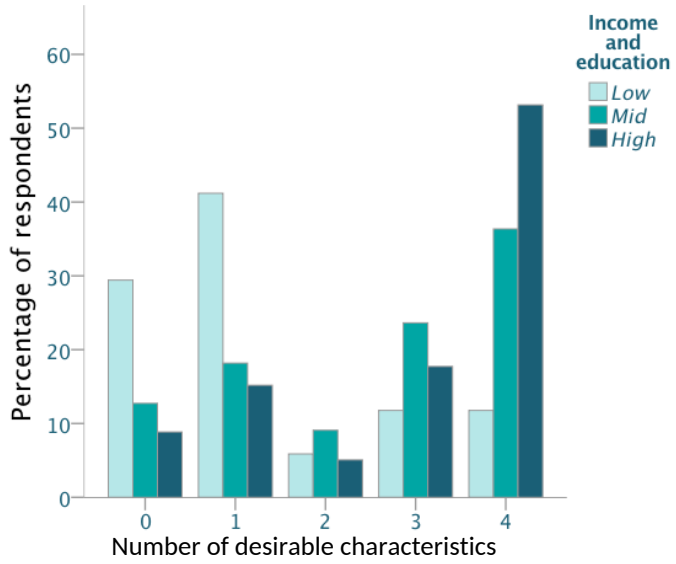

Fig. 4: number of easy family eating characteristics of most frequent eating table

5.2 Differences in the meanings involved in food preparation

What might be less apparent is the importance of the various explicit and non-explicit meanings that people ascribe to food, how these meanings affect cooking practices and how these meanings vary between different socio-economic groups. (Paddock, 2016; Daniels et al., 2012). Across research participants from both the survey and the qualitative studies, there was widespread agreement that fruits and vegetables were key healthy foods - in keeping with the findings of other studies (Dressler & Smith, 2013; Paquette, 2005; Ares et al., 2015). Though interviewed mothers from both areas expressed exasperation with the state of nutrition knowledge "I don't think anyone knows" (Ruth, IMD 7) or health advice "I don't think you'll ever win… Whatever you do is something bad, innit? Either it'll give you cancer or it'll make you fart, or it'll give you bad teeth!" (Katie, IMD 1) the underlying assumption about fruits and vegetables held strong. Without exception, all 310 open answer responses to 'When I'm trying to eat healthily my go-to meal would be…' were un- or minimally-processed foods and in the health Likert scale responses fruit and salad were unambiguously in a league of their own, with well over 90% either strongly agreeing or agreeing that they were healthy. The opposite was true when responding to examples of ultra-processed foods – with virtually no discernible difference between areas in either case (fig. 5 & 6).[2]

[2] These figures were derived by averaging responses to the question 'this food is healthy' on a 5-point likert scale from 'strongly agree' to 'strongly disagree' for to two unprocessed foods (fruit and salad) for figure 5 and four ultra-processed foods for figure 6 (packaged white bread cheese sandwich, pre-made frozen vegetable pizza, fish and chips and snack foods including crisps, biscuits & chocolates). Averaging over 4 rather than 2 responses produced the higher gradation in figure 6.

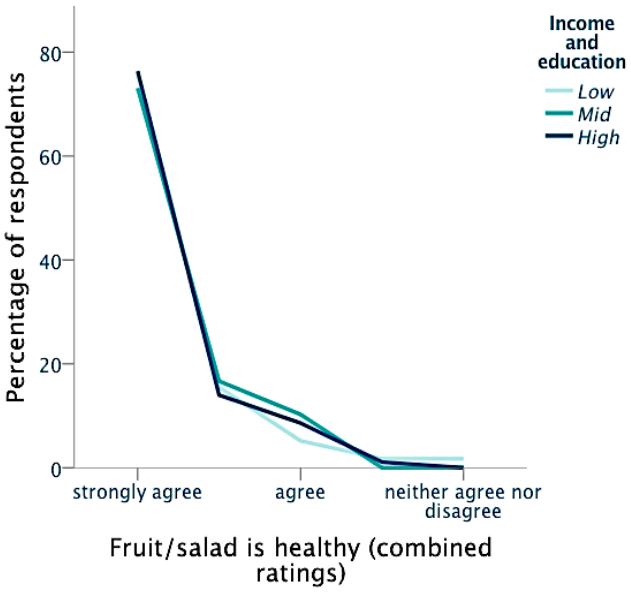

Fig. 5: perceptions of fruit and salad as healthy

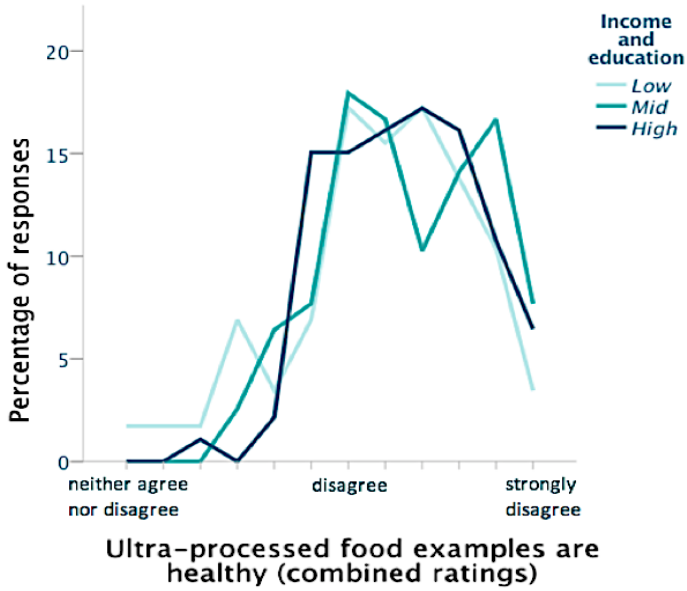

Fig. 6: perceptions of examples of ultra-processed foods as healthy

Where differences really developed in elements of meaning was in the gap between these abstract health beliefs and more situated understandings of what constitutes 'normal' eating. For instance, Jenny (IMD 7) claims "I don't think I consciously think about the health side of things, but it's always… in all of our meals there's some sort of vegetables or fruit in there", similarly Sandy's (IMD 7) norms and expectations about healthy eating led her to rebuke herself for feeding her daughter fish fingers for whilst they're "not that bad", they're "not good" either. In contrast, the norms of those in the low IMD area seem to draw the mothers living there away from their idealised healthy foods. Katie (IMD 1) translates her health beliefs in "fruit and veg" into healthy eating practices of Slimming World 'free stuff' like pasta, potatoes and oven baked chips and Emma's (IMD 1) knowledge that "it's fruit and veg, ain't it?" becomes eating "battered fish, mushy peas, and chips… [because] that's really cheap, for a single mum to be able to do something nice as well as healthy and cheap." Similarly, Sarah (IMD 1) 'really struggles' with eating fruit because growing up "Iceland freezer food and Cherryade. That was all we had" so she had to "work out what was a 'normal' healthy thing to eat." These everyday understandings of acceptably healthy may be more influential on what is practiced than abstract knowledge about healthy eating ideals.

Divergences also emerged around the non-health meanings involved in food practices. For Katy, worrying that her kids were "still hungry – it's not enough," the meanings most strongly connected with food provision were more to do with necessity than health. Katherine didn't face any such worries: "Johnathan's a bit fussy with these things, but, you know, it doesn't matter does it? There's always something". Previous research has also found that low income food norms tend to reflect more urgent priorities than future-oriented health beliefs (Vandebroeck, 2016; Backett-Milburn et al., 2010) "the priority… was to ensure that all family members 'got fed'" something filling and acceptable to them rather than something paying far off and uncertain dividends (Wills et al., 2011; 375). The norms of middle-class mothers by contrast have been found to move them away from refined industrialised products and towards higher vegetable consumption for more 'future oriented' health concerns (Parsons, 2016; Taylor, 2012). While 'high socioeconomic status' families talked about 'quality food' in terms of health, for low socioeconomic families affordability was the dominant quality narrative (Fielding-Singh & Wang, 2017). Differences in these cases weren't down to knowledge of health so much as its importance relative to other meanings of good food. The range of meanings around proper food which are more common among middle-class families supports their health knowledge and increases the chances of those mothers being recruited into healthier cooking practices with much less effort on their part (Plessz & Gojard, 2015; 189).

Thus socioeconomic variation appears to be linked more with situated understandings of adequately healthy food and the place of health among the plethora of other meanings involved in the constitution of food preparation practices than differences in abstract knowledge of healthy food. As such the provision of more information about healthy food or cooking without engaging with the unequal contexts of everyday life which shape healthy food norms and push other meanings to the fore is likely to have a limited impact.

5.3 Differences in the competences involved in food preparation

While ingrained inequalities in the meanings and materials of cooking affect the amount of effort required in preparing minimally processed foods for eating, socioeconomic deprivation also erodes the safe space for experimentation in the development of new competences and consumes the attention needed to pass cooking skills on to children.

Repeated performance allows the evolution of preparation practices to meet and develop tastes for unprocessed foods. For instance, several mothers reported that chopping fruits and vegetables in a certain way made them more palatable. Ruth (IMD 7) talked about how "a bolognese takes way longer, because I chop the veg really small so that Ted doesn't [reject it]" and Emily (IMD 1) described how she got around her dislike of carrots "I couldn't eat it just as a chunk, but … I was grating cheese… and I thought 'what if I grate carrot? Would it be as bad?'… cos it's not as crunchy and.. it doesn't feel like you're eating it as raw, I've just done that from now on – because the kids like it better like that too." Others found that the way they cooked vegetables "I do sort of over-cook all my veg, especially the carrots, but they eat it then" (Lucinda, IMD 1), didn't cook them "she'll eat raw carrots and not cooked carrots" (Rachel, IMD 7) or just the way they were mixed "Mia doesn't like mixing the flavours… she will eat a plate of vegetables but only if they're not mixed together" (Maria, IMD 1) were crucial to their palatability.

But these crucial unprocessed preparation practices evolved over histories of experimentation and repeated risks of failure. Liz tried experimenting with tofu once "It doesn't really taste of anything. "I thought, 'oh, I can't eat that'" but in a subsequent iteration she discovered that "actually in a nice curry with the coconut milk, it's really nice." Marianna who loves experimenting with new recipes or ideas admits it "doesn't always work out – sometimes you cook and you think 'oh my God! This doesn't taste of anything I imagined!'" and eat "just enough to sate my hunger" then get rid of it, but sometimes you think "ooh, this is actually quite good'." Rachel got around not really liking sweet potato by adding it to normal potato mash so "it tastes a bit better… I've learned [by] just having a go at different things." These histories of experimentation with different ingredients, recipes and vegetable preparations are an important part of finding minimally processed practices which fit with specific bodies and patterns of life. For most people, tastes and preparation practices evolve together. "There's such an amazing array of instant foods that could make life easier, but… I just don't enjoy… jar sauces and stuff… I guess because our palate is so accustomed to our own cooking, they don't taste quite right to us" (Susan).

As the examples above show, dislike of unprocessed foods can often be mitigated by the right preparation practices. Ellie wasn't keen on vegetables until she realised that they "actually do taste good if you cook them in different ways" but this takes more "time and energy and resources to make them taste nice" (Lynne) than with ultra-processed foods. The contrast is especially apparent for those who have to put in extra effort to disguise their tastes or textures, like Katie "I'll take the skin off and then cut them small … I didn't like mushrooms, I think that's why I do it."

High cooking competency promotes the consumption of unprocessed foods by helping to develop new tastes and to lower the bar for the acceptability of these foods, reducing the risk of rejection when serving them. In the survey, variables associated with cooking fluency (enjoyment, tendency to stick to dishes you know well and the perceived stress of involving your children), were linked to less frequent consumption of ultra-processed foods (spearman's rank, $r = 0.163$, $p < 0.001$). This link between cooking enjoyment and amount of ultra- and un-processed foods consumed has also been found in other studies (Crawford et al., 2007; Dave et al., 2009). These findings may reflect a lower effort hurdle as much of the process has been habituated and can be done without much thought. The more competences are repeated, the more automatic they become and the less attention enacting the practice requires (Khaneman, 2011; 22). As Sarah (IMD 1) said when asked to describe making a pasta bake from her diary: "it's funny when you've got to think about it… I'm like 'how do I do it?' I just go on automatic mode." Unsurprisingly, and as one would expect with the link to more frequent unprocessed consumption, higher cooking fluency was also related to greater reported liking of unprocessed foods as well as a slight negative correlation with liking ultra-processed food (see fig. 7).

	Correlation of cooking fluency with food enjoyment (Spearman's rank)	
	Enjoyment of ultra-processed foods	Enjoyment of unprocessed foods
Cooking fluency	-0.187*	0.344**

** Correlation is significant at the 0.01 level (2-tailed), * correlation is significant at the 0.05 level (2-tailed)

Fig. 7: link between cooking fluency and enjoyment of unprocessed foods

While preparation practices might be able to overcome a low liking for unprocessed foods the resources risked are still much higher than with ultra-processed options packed with appealing fats, salts and sugars, sold incredibly cheaply and involving incredibly little effort to prepare. When resources are tight, is the repeated performance of risky, challenging, costly preparation practices with relatively low sensory gratification in the present worth it in the pursuit of increasing preparation skills and enjoyment of eating unprocessed foods in the long term?

Relative deprivation also affects the ease of passing on competences to the next generation. Katherine explains that when she has time with just one child it is much easier to involve them in the cooking: "when his little brother's not around, he's brilliant, he loves it… when there's more people to entertain it's tricky to do." This luxury is very rarely afforded to Katie who, as a single mother without enough money for babysitting, has very little time without both of her children demanding her attention: "I'm trying to do something in here and they're running around over there… then Lilly's run upstairs so I've got to see to her… got to keep on top of them!" Persistent juggling of insufficient resources and other stressors related to poverty has also been found to be mentally demanding, potentially reducing the voluntary capacity available for other activities – such as teaching children to cook (Shafir, 2017; Zhao & Tomm, 2017; Haushofer & Fehr, 2014; Mani, et al., 2013). Feeling stretched already, Katie "won't let them cut… all [the mushrooms] cos as you can imagine they make a bit of a mess", whereas for Katherine mess is manageable as she has attention spare to monitor and minimise it "Tell you what, let's do this [onion chopping] over the work surface, because it's making a devastating amount of mess… it doesn't have to go through the handle." In these contexts "convenience foods are not deployed simply because there is a lack of time to cook, but rather because the use of these foods… enables them to combine cooking with childcare in… less onerous ways" (Meah and Jackson, 2017; 2073). Both Katie and Katherine wanted to involve their enthusiastic children in their cooking performances but the effort of doing so was unequal due to unequal demands placed on their attention.

This understanding of food preparation practices helps us to understand how socioeconomic inequalities can translate into cooking practices through differences in the elements which determine what is easy for us to do 'unthinkingly' on the majority of occasions when our minds are occupied by other things. These inequalities can self-perpetuate over long histories of repetition of mostly non-conscious elements, distorting the amount of effort demanded of people with different contexts and practice histories and eroding the potential for individual blame, especially in contexts of poverty which tend to increase the difficulty of deviating from established habits (Haushofer & Fehr, 2014). While it is perfectly possible for people living in poverty to be diverse and enthusiastic cooking practitioners like Katherine, socioeconomic differences in the distribution of these elements tend to mitigate against this.

6. Conclusion

This article has used a practice theory approach to prioritise situated everyday performances of cooking and explore the non-conscious factors driving them. It has argued that beyond rational choice or intention, cooking is better understood as a practice produced by a particular web of mostly unthinking elements and that these elements are often aligned with socioeconomic differences.

We have taken empirical studies of cooking practice into new areas by explicitly focusing on how socioeconomic inequalities affect the distribution of many of the elements involved in cooking. Considering macro-scale social inequities and the mundane micro-scale doings of everyday life in the same frame is something which practice accounts have largely avoided so far, to their detriment (Sayer, 2013; Walker, 2013). As this research has shown, there are clear links between the way in which socioeconomic deprivation skews the materials, meanings and competences of our lives and the types of food prepared with little conscious attention. In attending to the minutiae of everyday cooking practices this article has highlighted some of the more hidden and taken-for-granted elements of everyday life which perpetuate unthinking inequities. In so doing it provides further evidence that increasing education and awareness without engaging with context cannot be adequate to increase 'healthy' eating and, if anything, stands to make inequalities even greater (McGill et al., 2015; Brambila-Macias et al., 2011).

If policy makers are serious about increasing healthy eating and reducing the healthy eating gap, they must pay more attention to the social and historical contexts of the those they are trying to influence. Furthermore, state and civil society organisations must seek to tailor their courses on cooking skills and the provision of recipes to take into account the range of practical, mundane but also vital background factors which shape everyday life. All of the mothers interviewed believed that feeding their children home-cooked food was preferable, yet most did not consistently practice this. The knowledge that vegetables are good for you is not decreasing but the consumption of vegetables is – especially among poorer demographics (Michie et al., 2008). Although often confused about the detail, the basic understanding that fruit and vegetables are healthy and ultra-processed foods are not healthy is shared by the vast majority of the public (Ares et. Al., 2014; 2015; 2016; Paquette, 2005). This is not a knowledge deficit so much as a knowledge-action gap. We cannot hope to turn knowledge into repeated action without engaging with the non-conscious elements which shape our easy and unthinking actions.

Understanding cooking as a practice implies that interventions to increase the consumption of minimally processed foods and reduce ultra-processed food consumption must take into account the array of materials, meanings and competences of which our performances are composed. The existing elements of life in a deprived area are likely to be a bigger barrier to the evolution of minimally-processed cooking practices, making engaging with these situated non-conscious aspects all the more important to affecting change in these groups (McGill et al., 2015). Yet this is a particularly notable absence in dominant healthy eating interventions, which tend to treat humans as relatively autonomous, free-choosing agents, while the unequal circumstances in which they 'choose' are downplayed (Swinburn et al., 2011; Townshend et al., 2010). As Traverso-Yepez & Hunter point out "the predominant public health approach to counteract the increasing number of food-related health issues continues to be fragmented and focused on individuals" (2016; 1). Educating people to cook from scratch more frequently through addressing conscious cognition avoids addressing systematic inequities in the non-conscious elements of cooking habits. Maintaining a focus on individual choice in this context effectively blames some of the most vulnerable in society for the odds stacked against them.

Limitations and extensions

This research was carried out over a one year period and focused predominantly on current cooking practices rather than the longer term evolution of practices over time. Further research taking a longitudinal approach might investigate how changes in the elements constituting practices (materials, meanings and competencies) could affect the evolution of cooking practices. For instance, would providing households in high deprivation areas with more appropriate dining tables increase cooking with basic ingredients? Could changing tables have in impact if the web of other elements remained the same? Would healthy cooking interventions be more successful if they attempted to influence all the elements of practice (materials, meanings and competencies) at the same time?

All of the research was carried out with mothers in Bristol and findings could be specific to this area and demographic. The scope of the study could be broadened geographically to examine the ways in which social inequalities impact cooking practices in different regions of the UK and in different countries throughout the world. Exploring national differences could be particularly insightful in this regard due to the likely economic, material, cultural and social differences between countries. The scope of the study could also be expanded to consider male cooking practices and to take into account the impact of digital technologies, such as on-line shopping, on healthy cooking and eating.

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