



City Research Online

City St George's, University of London

Citation: Pickering, J. & Reynolds, C. (2025). Meal mutability: Understanding how variations in meal concepts and recipe flexibility relate to food provisioning. *International Journal of Gastronomy and Food Science*, 33, 100797. doi: 10.1016/j.ijgfs.2023.100797

This is the accepted version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/31162/>

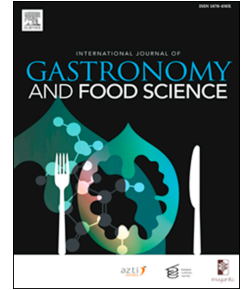
Link to published version: <https://doi.org/10.1016/j.ijgfs.2023.100797>

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to [City Research Online policy](#).

Journal Pre-proof

Meal mutability: Understanding how variations in meal concepts and recipe flexibility relate to food provisioning

Jack Pickering, Christian John Reynolds



PII: S1878-450X(23)00139-7

DOI: <https://doi.org/10.1016/j.ijgfs.2023.100797>

Reference: IJGFS 100797

To appear in: *International Journal of Gastronomy and Food Science*

Received Date: 2 March 2023

Revised Date: 9 August 2023

Accepted Date: 11 August 2023

Please cite this article as: Pickering, J., Reynolds, C.J., Meal mutability: Understanding how variations in meal concepts and recipe flexibility relate to food provisioning, *International Journal of Gastronomy and Food Science* (2023), doi: <https://doi.org/10.1016/j.ijgfs.2023.100797>.

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2023 Published by Elsevier B.V.

Author Credit Statement

Jack Pickering:

Conceptualization; Data curation; Formal analysis; Investigation; Methodology;
Visualization; Writing - original draft; Writing - review & editing

Christian Reynolds:

Funding acquisition; Conceptualization; Project administration; Resources; Supervision;
Writing - review & editing

Journal Pre-proof

Meal mutability: Using the flexibility of recipes to understand how variations in home cooking practices differ in relation to food provisioning.

Jack Pickering^{a*}

^aUniversity of Sheffield Management School, Conduit Rd, Sheffield, S10 1FL, United Kingdom. (jack.pickering@sheffield.ac.uk)

Christian John Reynolds^b

^bCity, University of London, Northampton Square, London, EC1V 0HB, United Kingdom. (Christian.reynolds@city.ac.uk)

*Corresponding Author

Declaration of interest

Declarations of interest: None. [See declaration of interest document for full disclosure of possible conflicts of interest external to this work]

1 **Meal mutability: Understanding how variations in** 2 **meal concepts and recipe flexibility relate to food** 3 **provisioning.**

4 5 **Abstract (94/100 words):**

6 This short communication introduces the meal mutability concept. This concept aims to
7 describe how recipes and the ideal meals they refer to are flexibly interpreted and enacted as
8 cooked dishes by consumers in practice. This flexibility may be linked to relations between
9 provisioning and cooking in households, among other things. These features are explored using
10 qualitative data originally analysed as part of a project focussing on quantitative modelling of
11 household food and packaging waste. Meal mutability is intended to assist the development of
12 modelling of the environmental consequences of particular foods and cooking methods.

13 14 **Main body (3151 words incl. references)**

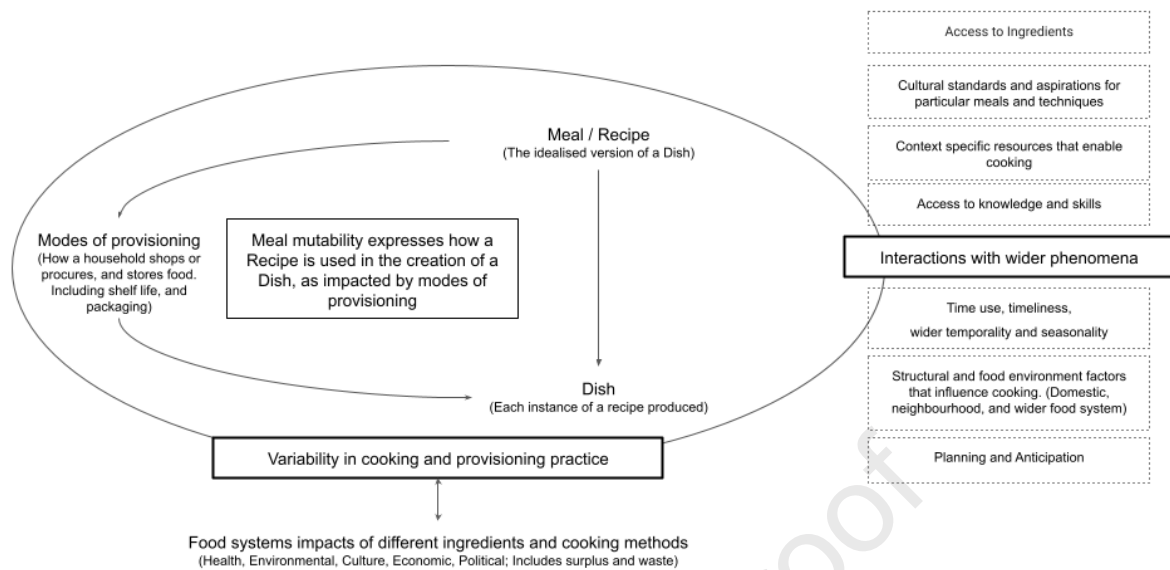
15
16 The adoption of healthy and sustainable meals and food provisioning patterns by households
17 could improve health, economic stability, and environmental outcomes (Kolbe, 2020; van Erp
18 et al, 2021). In literature which addresses the environmental effect of recipes, there is a lack of
19 attention to how recipes affect household meal planning and food provisioning (Chalmers et
20 al, 2019; Kolbe, 2020; Speck et al, 2020; Frankowska, 2020; van Erp et al, 2021). While
21 dietetics (Begley and Gallegos, 2010a; 2010b) and the food agency approach (Wolfson et al,
22 2017; Trubek et al, 2017) have attended closely to the broad range of factors linked to cooking,
23 this short communication examines potential relationships between meal concepts and modes
24 of provisioning. In other literatures engaging with meal planning, recipes are only engaged
25 with in passing as flexible aspects of domestic food practice (Dean et al, 2010. p.589; Yates
26 and Warde, 2017; Jackson, 2018) and this is arguably inadequate for understanding the
27 complexities of how recipes transform food (Cuykx et al, 2023).

28
29 Reynolds (2017a; 2017b; 2017c) has highlighted how a specific recipe can vary substantially
30 in terms of ingredients, methods, and cooking techniques yet still be recognizable. Frankowska
31 et al (2020) further highlight that this kind of variability between cooking practices has
32 implications for quantitative modelling of environmental impacts, and dietary

33 assessments also need to account for this variability in some way (Chiang and Sheu, 2020;
34 Speck et al, 2020). We suggest that there may be variabilities in how recipes are enacted
35 between individuals, households, and communities which are systemic, with potential system
36 wide implications. Changes to provisioning modes such as shopping, shelf life, and packaging
37 will inevitably interact with this variability. A method of accounting for this variability needs
38 to be developed to assist the development of gastronomic research, food and nutrition policy,
39 and sustainable new product development. For this reason, we build on the work of Borghini
40 (2015) on open-ended recipes to propose the concept of *meal mutability*.

41

42 A recipe is constituted by a list of ingredients and a process at minimum. Borghini (2015; 2022)
43 engages with recipes in philosophical terms, and proposes a performative framework for
44 understanding them. In this framework the food-stuff created when a recipe is followed, is
45 referred to as a dish. While each recipe may be understood as the set of instructions to prepare
46 an idealised meal, understanding each cooked dish as a separate instance enables Borghini
47 (2015) to argue that recipes are open-ended. Each recipe is “an infinite game, whose rules i.e.
48 expertise, performative utterance, collective judgement are known, but whose beginning and
49 end may remain unknown” (Borghini, 2015. p.736). Using this idea, it is possible to describe
50 how the flexibility of recipe/meal concepts might play a role in the practical organisation of
51 household cooking and food practices. This short communication explores the possibility that
52 the degree of flexibility with which recipes as ideas are interpreted and performed in the
53 household may impact how meals are planned and how provisioning is done and vice versa,
54 with reference to empirical material. We are not looking directly at factors that enable or
55 influence cooking, meal choice or provisioning.



56

57 Figure 1- The relationships between elements of the meal mutability concept and wider
58 phenomena.

59 The ideas discussed here emerged from qualitative research supporting a food and simulation
60 project. Remote semi-structured interviews were conducted with 28 participants and 25 of
61 those participants also took part in diary research over the course of a week (Isaacs et al,
62 2020). These interviews and diary research aimed to understand how elements of weekly and
63 daily routines in a household may affect patterns of food provisioning, cooking and wasting
64 practices. Participants were recruited by means of an initial screening questionnaire, and
65 informed consent was gained for all stages. Ethical approval was granted by University of
66 Sheffield Management school Ethics board (Ref #043489). Pseudonyms are used throughout,
67 for the participants. Thematic analysis of the interview transcripts and diary entries was done
68 using the Nvivo software package according to the needs and theoretical assumptions of the
69 project. Further explanation of the methodology and other findings from this research can be
70 found in Pickering (2023). As the focus of the simulation project was not fully aligned with
71 the topics explored here, we are not able to give a more comprehensive overview; this short
72 communication is intended as an initial proposition.

73 The importance of meal mutability is particularly evident when the relationship between
74 provisioning and cooking is constrained. In one instance, a participant named Siobhan
75 discussed how her meal planning fitted around her weekly vegetable box delivery. Vegetable
76 boxes and other forms of food delivery service are a niche form of provisioning (Armstrong

77 et al, 2022; FSA, 2022; Wheeler, 2020) but they are of interest here because they present the
78 consumer with a pre-arranged selection of items rather than the wider selections presented by
79 supermarkets. The consumer is often only able to indicate strong preferences against certain
80 items. These features make them useful because they allow for a comparison with more
81 flexible modes of provisioning. When some aspects of choice are constrained, consumers like
82 Siobhan are forced to orient their selection and planning of recipes for the week ahead around
83 what is presented. Siobhan described in detail how this worked for her household.

84

85 *“Participant (P): We get a veg box, so we get that on a Thursday, and we try and, that*
86 *probably forces us to plan out some meals, so the one we get we don’t know what’s gonna be*
87 *in it till it arrives. So usually at some point on Friday or Saturday we’ll have to sit down and*
88 *have a think. [...] to then work out what we need from the shop cause we often then if we*
89 *were doing the shopping before the veg box came, we used to buy stuff that didn’t really work*
90 *with what’s in the veg box”.*

91 [Siobhan]

92

93 Here Siobhan demonstrates that pre-arranged provisioning determines to some degree how
94 meals are planned and recipes selected. The vegetable box delivery did not only determine
95 when planning took place but also how it took place, as they needed to purchase the correct
96 items in the additional weekly shop, based on what had already been delivered in the
97 vegetable box. This shows how meal mutability works, as Siobhan’s recipe selection and
98 formation had to accommodate the fixed but undeclared set of ingredients provided by the
99 vegetable box delivery. Other participants like Daria also had vegetable boxes delivered and
100 displayed significant flexibility in the meals they were prepared to make with what was
101 brought. This was remarkable as Daria had a baby to care for, but still felt able to make
102 appropriate meals in this flexible way. In one case, she described making pancakes out of
103 chopped up cooked pumpkin that was otherwise surplus to requirements. This was a recipe
104 which would involve considerable skills and creativity. It also did not seem to conform to
105 standard cultural templates for a meal. Daria explained elsewhere in the interview that she
106 regularly cooked a set of fixed meals, but she also ‘keep[s] things new’. It was clear that
107 Daria had considerable food agency, (Trubek et al, 2017) but the type of provisioning still
108 seemed to demand a high degree of flexibility.

109

110 Daria notes that her cooking skills improved, and this raises the issue of whether such
111 flexibility is a way of dealing appropriately with the restricted selections provided by
112 vegetable boxes, or if it is cultivated by vegetable boxes as a form of provisioning. Vegetable
113 boxes are likely to require a high level of food agency as a mode of provisioning, but they do
114 highlight a connection between constrained forms of provisioning and high meal mutability.
115 High levels of meal mutability were evident in a range of cases in which participants did not
116 receive vegetable boxes. Freya, another participant in the study, did not receive a vegetable
117 box but her account of cooking practices demonstrates the kinds of flexible connections
118 between ingredients that the meal mutability concept aims to explore.

119

120 *“You know, we have quite a lot of stuff in stock [...] so without having to go to a shop, you*
121 *can kind of concoct something in various different ways [...] I think we both cook a bit like*
122 *that, kind of, ‘What do I fancy? What have we got that needs using? [...] What can I combine*
123 *that fits how I feel like eating?’ umm, so there aren’t many things, there are a few things, but*
124 *there aren’t many things where we’re like, ‘I am making this one specific thing today’”*

125 [Freya]

126

127 Freya demonstrates a flexibility in terms of the concepts she uses to generate ideas for meals,
128 despite potentially flexible provisioning modes. This was evident among a number of other
129 participants as well. Rather than meals being based on particular fixed recipes for a range of
130 appropriate meals they are based on common categories of recipes/dishes that will accept a
131 range of available ingredients. Shortly after the excerpt above, Freya went on to describe how
132 lacking certain ingredients would not result in an automatic trip to the shops. In this situation,
133 the necessary flexibility is being preserved in the formation of recipes, to avoid additional
134 flexibility in how provisioning is done. Given that cooking and provisioning are linked but
135 require slightly different forms of activity and efforts, it is possible to see why this kind of
136 flexibility may become important in particular contexts. DeVault (1991) uses the metaphor of
137 a puzzle to capture how meal planning works in households, and this is echoed by the game
138 metaphor used by Borghini (2015). The different aspirational goals, individual tastes and the
139 practical needs of a household all form part of the puzzle posed to those responsible for
140 provisioning and preparing food in a household. Extending this puzzle metaphor, in some
141 cases the recipe must also change in response to the need to solve the puzzle in particular
142 ways, dictated by the situational demands of each household.

143

144 In the examples given so far, recipes and cooking have been fairly flexible and their demands
145 have been subordinate to the available food. Other participants approached meals with a very
146 different starting point, by shopping for particular ingredients and planning out particular
147 meals at the provisioning stage through the connections between these ingredients found in
148 recipes. Sara for example, who was living with a new housemate, described how she would
149 put potential meals together as she walked around the supermarket shopping rather than
150 doing this work in the home.

151

152 *"when I go to the supermarket, only up until recently [...] I was always cooking for myself,*
153 *and kind of you buy a pack of salmon, there's two pieces of salmon in there and you know if*
154 *you cook it all together it will last two meals, a pack of chicken thighs might make a curry or*
155 *something like that so that will do two or three meals... Yeah, like most things, like if you've*
156 *got tinned tomatoes, peppers, onions, you can make a whole range of things when you've got*
157 *like mince or chicken and stuff".*

158 [Sara]

159

160 Along with the contrasting evidence from other participants, this account suggests that more
161 planning at the provisioning or shopping stage, outside the home, make the specific
162 connections between ingredients that constitute recipes important. Sara mentioned separately
163 that she used a dieting app on her phone to generate recipes based on what she had in the
164 home. This dieting app provided relatively strict guidelines for what was to be included in
165 recipes. Combined with her reflection on the amount of meals particular ingredients will
166 provide in combination with other staples, this provides a potential insight into how less
167 flexible recipe concepts among consumers may affect provisioning practices. In her account,
168 anticipatory work (Pickering, 2023) to form meals takes place at the provisioning or shopping
169 stage, rather than at home. As Sara also notes, particular ingredients feature in a wide range
170 of recipes and are bought regularly, echoing how Freya keeps particular staple ingredients in
171 stock. This suggests that even when meal mutability is low, particular stable and common
172 base elements of recipes may also be able to provide the basis for flexibility at the
173 provisioning stage. Further data from a broader range of consumers is needed to fully
174 demonstrate the potential connections between more fixed, less mutable meals and recipes,
175 and less constrained forms of provisioning.

176

177 Meal mutability in households may vary in predictable ways that may be linked to other
178 practices and features of the household. This short-communication is not able to demonstrate
179 these patterns definitively, but it hopes to provide a starting point for considering them in
180 more detail. There is potential for future work building evidence and conceptualisations of
181 meal mutability, connecting the concept to existing work on recipes, cooking and
182 provisioning such as Cuykx et al (2023) and the food agency approach (Wolfson et al, 2017;
183 Trubek et al, 2017). Such work would ultimately lead towards a developed meal mutability
184 concept which can assist quantitative modelling of the potential and real environmental
185 impacts of recipes and meals, and the implementation of more effective recipe and cookery
186 based interventions to improve personal, societal, and planetary health. This contributes
187 towards the goal of a circular gastronomy, towards the re-creation and re-design of meals and
188 recipes for a sustainable future (Nyberg et al, 2022).

189

190 Funding:

191 This work was supported by a grant from the Natural Environment Research Council
192 ('Reducing plastic packaging and food waste through product innovation simulation', grant
193 number: NE/V010654/1).

194

195

196

197 References:

198

199 Armstrong, B., King, L., Clifford, R., Jitlal, M. and Jarchlo, A.I. 2022. Executive Summary
200 for Food and You 2 Wave 4 [pdf]. Food Standards Agency (FSA). Available at:
201 <https://www.food.gov.uk/research/executive-summary-for-food-and-you-2-wave-4>.
202 [Accessed on: 8/8/23]

203

204 Begley, A., & Gallegos, D. (2010). Should cooking be a dietetic competency? *Nutrition and*
205 *Dietetics*, 67(1), 41–46. <https://doi.org/10.1111/j.1747-0080.2010.01392.x>

206

207 Begley, A., & Gallegos, D. (2010). What's cooking for dietetics? A review of the literature.
208 *Nutrition and Dietetics*, 67(1), 26–30. <https://doi.org/10.1111/j.1747-0080.2010.01406.x>

209

- 210 Borghini, A. (2015). What Is a Recipe? *Journal of Agricultural and Environmental Ethics*,
211 28(4), 719–738. <https://doi.org/10.1007/s10806-015-9556-9>
212
- 213 Borghini, A. 2022. Seven Philosophical Questions about Recipes. p.15-28. In: Borghini, A.
214 and Engisch, P. (eds.) 2022. *A Philosophy of Recipes: Making, Experiencing and Valuing*.
215 Bloomsbury, London.
216
- 217 Chalmers, N., Stetkiewicz, S., Sudhakar, P., Osei-Kwasi, H., & Reynolds, C. J. 2019. Impacts
218 of reducing UK beef consumption using a revised sustainable diets framework. *Sustainability*
219 (Switzerland), 11(23), 1–20. <https://doi.org/10.3390/su11236863>
220
- 221 Chiang, C. I., & Sheu, R. S. 2020. How the sustainability of your recipes? *International*
222 *Journal of Gastronomy and Food Science*, 22(48), 100244.
223 <https://doi.org/10.1016/j.ijgfs.2020.100244>
224
- 225 Cuykx, I., Teunissen, L., Decorte, P., Pabian, S., Van Royen, K., Vandebosch, H., Van den
226 Bulck, H., & De Backer, C. (2023). Let’s talk about chefs, baby: Comparing three types of
227 home cooks on recipe use before and during COVID-19. *International Journal of Gastronomy*
228 *and Food Science*, 32(December 2022). <https://doi.org/10.1016/j.ijgfs.2023.100699>
229
- 230 Dean, W. R., Sharkey, J. R., Cosgriff-Hernández, K. K., Martinez, A. R., Ribardo, J., &
231 Diaz-Puentes, C. 2010. “I can say that we were healthy and unhealthy Kevin-Khristián”:
232 Food choice and the reinvention of tradition. *Food, Culture and Society*, 13(4), 573–594.
233 <https://doi.org/10.2752/175174410X12793504246377>
234
- 235 DeVault, M. 1991. *Feeding the Family: The Social Organization of Caring as Gendered*
236 *Work*. University of Chicago Press; London.
237
- 238 Ehrenberger, K.A. (ed.). *H-Nutrition* (Edited blog). Reynolds, C. J. 2017c. Can statistics tell
239 us what is a representative recipe? The case of Yorkshire pudding. 06-19-2017.
240 [https://networks.h-net.org/node/134048/discussions/182621/can-statistics-tell-us-what-](https://networks.h-net.org/node/134048/discussions/182621/can-statistics-tell-us-what-representative-recipe-case-yorkshire)
241 [representative-recipe-case-yorkshire](https://networks.h-net.org/node/134048/discussions/182621/can-statistics-tell-us-what-representative-recipe-case-yorkshire)
242

- 243 Food Standards Agency (FSA). (2022) Wave 3 Key Findings [pdf]. FSA. Available at:
244 [https://www.food.gov.uk/sites/default/files/media/document/Food%20and%20You%202%20](https://www.food.gov.uk/sites/default/files/media/document/Food%20and%20You%202%20-%20Wave%203%20Key%20Findings%20FINAL.pdf)
245 [-%20Wave%203%20Key%20Findings%20FINAL.pdf](https://www.food.gov.uk/sites/default/files/media/document/Food%20and%20You%202%20-%20Wave%203%20Key%20Findings%20FINAL.pdf).
246
- 247 Food Standards Agency (FSA). 2022. COVID-19 consumer tracker survey [pdf]. FSA.
248 Available at: [https://www.food.gov.uk/research/behaviour-and-perception/the-covid-19-](https://www.food.gov.uk/research/behaviour-and-perception/the-covid-19-consumer-research)
249 [consumer-research](https://www.food.gov.uk/research/behaviour-and-perception/the-covid-19-consumer-research).
250
- 251 Frankowska, A., Rivera, X.S., Bridle, S. et al. 2020. Impacts of home cooking methods and
252 appliances on the GHG emissions of food. *Nature Food* 1. pp.787–791.
253 <https://doi.org/10.1038/s43016-020-00200-w>
254
- 255 Isaacs, A., Squires, C. G., & Hawkes, C. 2021. How Is COVID-19 Shaping Families’
256 Relationships With Food and the Food Environment in England? A Qualitative Research
257 Protocol. *International Journal of Qualitative Methods*, 20.
258 <https://doi.org/10.1177/1609406921991371>
259
- 260 Jackson, P. 2018. Familial fictions: families and food, convenience and care. *European*
261 *Journal of Marketing*, 52(12), 2512–2520. <https://doi.org/10.1108/EJM-11-2017-0882>
262
- 263 Kolbe, K. 2020. Mitigating climate change through diet choice: Costs and CO2 emissions of
264 different cookery book-based dietary options in Germany. *Advances in Climate Change*
265 *Research*, 11(4), 392–400. <https://doi.org/10.1016/j.accre.2020.11.003>
266
- 267 Nyberg, M., Ehn Börjesson, S. M., Höijer, K., Olsson, V., Rothenberg, E., & Wendin, K.
268 2022. Circular gastronomy – Exploring a new compound concept at the interface between
269 food, meals and sustainability. *International Journal of Gastronomy and Food Science*,
270 30(May). <https://doi.org/10.1016/j.ijgfs.2022.100610>
271
- 272 Pickering, J. (2023). Household meal planning as anticipatory practice : The role of
273 anticipation in managing domestic food consumption and waste. *Geoforum*, 144(June),
274 103791. <https://doi.org/10.1016/j.geoforum.2023.103791>
275

- 276 Powells, G., Bulkeley, H., Bell, S., & Judson, E. 2014. Peak electricity demand and the
277 flexibility of everyday life. *Geoforum*, 55, 43–52.
278 <https://doi.org/10.1016/j.geoforum.2014.04.014>
279
- 280 Reynolds, C. J. 2017a. Energy embodied in household cookery: The missing part of a
281 sustainable food system? Part 1: A method to survey and calculate representative recipes.
282 *Energy Procedia*, 123, 220–227. <https://doi.org/10.1016/j.egypro.2017.07.245>
283
- 284 Reynolds, C. J. 2017b. Energy embodied in household cookery: The missing part of a
285 sustainable food system? Part 2: A life cycle assessment of roast beef and Yorkshire pudding.
286 *Energy Procedia*, 123, 228–234. <https://doi.org/10.1016/j.egypro.2017.07.248>
287
- 288 Speck, M., Bienge, K., Wagner, L., Engelmann, T., Schuster, S., Teitscheid, P., & Langen, N.
289 2020. Creating sustainable meals supported by the NAHGAST online tool-approach and
290 effects on GHG emissions and use of natural resources. *Sustainability (Switzerland)*, 12(3).
291 <https://doi.org/10.3390/su12031136>
292
- 293 Trubek, A.B. et al. 2017. Empowered to cook: The crucial role of ‘food agency’ in making
294 meals. *Appetite* 116, pp. 297–305. Available at:
295 <http://dx.doi.org/10.1016/j.appet.2017.05.017>.
296
- 297 van Erp, M. et al. (2021). Using Natural Language Processing and Artificial Intelligence to
298 Explore the Nutrition and Sustainability of Recipes and Food. *Frontiers in Artificial*
299 *Intelligence*, 3(February), 1–8. <https://doi.org/10.3389/frai.2020.621577>
300
- 301 Wheeler A. (2020). COVID-19 UK Veg Box Report. Food Foundation. Available at:
302 [https://foodfoundation.org.uk/sites/default/files/2021-10/Food-Foundation-COVID-19-Veg-](https://foodfoundation.org.uk/sites/default/files/2021-10/Food-Foundation-COVID-19-Veg-Box-Scheme-report.pdf)
303 [Box-Scheme-report.pdf](https://foodfoundation.org.uk/sites/default/files/2021-10/Food-Foundation-COVID-19-Veg-Box-Scheme-report.pdf).
304
- 305 Wolfson, J.A. et al. 2017. A comprehensive approach to understanding cooking behavior:
306 Implications for research and practice. *British Food Journal* 119(5), pp. 1147–1158.
307

308 Yates, L., & Warde, A. (2017). Eating together and eating alone: meal arrangements in
309 British households. *British Journal of Sociology*, 68(1), 97–118.
310 <https://doi.org/10.1111/1468-4446.12231>
311

Journal Pre-proof

Implications for gastronomy

Meal mutability is proposed as a concept to describe the way in which recipes may be flexibly interpreted and enacted as meals by consumers, based on different relationships between provisioning and cooking in domestic households. The goal of this work is to assist the development of work attempting to estimate the environmental consequences of foods and particular meals, in order to promote healthier and more sustainable alternatives. A concept which is able to account for and provide potential future guidance on the connections between domestic recipe interpretation, meal production and provisioning practices will improve the creation of more sustainable and healthier alternatives based on quantitative modelling and assessment of nutritional and environmental indicators of ingredients, and cooked meals. This is because such a concept will provide a way to account for and describe particular variabilities that may have particular associations with other aspects of household food practice. This contributes towards the goal of a circular gastronomy, in that it pursues the re-creation and re-design of meals and recipes for a sustainable future (Nyberg et al, 2022).

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Outside this Work – CR has advisory positions on boards at the Nutrition Society, and the Institute of Food Science & Technology. CR has had payment via City, University of London for consulting for WRAP, DEFRA, and the FSA. CR has consulted and discussed my research in expert interviews or as part of an expert advisory group (for no fee/Pro Bono) with the following organizations:

- Collider Lab, YUM Brands - 2020
- Fwd - 2020
- Greener Beans – 2020
- QUT Digital Media Research Centre – 2020
- Haier Israel Innovation Center, Ltd. – 2021
- Almond Board of California, via Porter Novelli - 2022

CR has been paid a Speaker's Stipend by the following events:

- The Folger Institute – 2020

CR has chaired panels and have presented at the following organisations (for no fee/Pro Bono):

- Nutrilicious -2022/23
- MyNutriWeb -2022/23

CR has been awarded competitive research funding from the following independent foundations:

- The Alpro Foundation - 2020 (€49,858)