

Supplement materials

Fieldwork Study: Additional Information

In this supplement materials, we present the details of the fieldwork study from which we collected the data which was used as the basis for creating visualisations.

1. Fieldwork observations

We visited people in their homes and asked them to cook a meal of their choice. The first author of the associated manuscript was present and recorded a video of each participant preparing their dish. The researcher took field notes and conducted a semi-structured interview at the start and end of each session.



Figure S1. Example of the field observations: recording from one of the three cameras showing participant(s) cooking in the centre with the researcher visible in the bottom-right

2. Data collected

We collected basic data about participant demographics and meal characteristics, and they were interviewed at the end of the session. We used these data to triangulate an understanding of CPG interactions with our observations made in the field and through video recordings.

Table S1. Basic information about participants and meals

P	Gender	Age	Meal	Meal-Type	Duration (minutes)
01	Male	25	Chicken coconut curry	Curry	36
02	Non-binary	28	Chickpeas curry with rice	Curry	76
03	Male	19	Spaghetti bolognese	Pasta	21
04	Female	50	Green vegetable soup	Soup	45
05	Male	30	Spaghetti bolognese	Pasta	41
06	Female	32	Noodles with vegetables	Pasta	45
07	Male	32	Oven roasted chicken	Roast	88
08	Female	33	Scrambled eggs and avocado toast	Omelette	28
09	Female	29	Chicken fajitas with rice and beans	Meat-based	68
10	Male	29	Scrambled eggs	Omelette	39
11	Female	29	Spaghetti bolognese	Pasta	56
12	Male	46	Tacos of beef mince and vegetables	Meat-based	80
13	Female	29	Creamy risotto with vegs and prawns	Rice	43
14	Female	35	Vegetable-based stew	Soup	73
15	Female	72	Rice with chickpeas	Rice	50
16	Female	40	Oven roasted chicken	Roast	70
17	Female	32	Shepherd's pie	Pie	113
18	Female	26	Pasta carbonara and napolitana	Pasta	44
19	Female	37	Shepherd's pie	Pie	71
20	Male	46	Creamy chicken pasta	Pasta	68

Notes: P = participant

3. Data coding

We noted each time a participant interacted with an item while cooking, regardless of whether the interaction was intentional or unintentional. We recorded the start and end time of each interaction. The start time corresponded to the time that people started an interaction, and the end time to when the participant stopped an interaction with the items. We also noted comments for any interactions which we considered to be out of the ordinary.

order	items	items_uniq	category	type	start	end	duration	cook	participant	session	comments
21	water	0	cleaningProduct	c	184	212	28	1	11	reg	NA
22	spaghetti	0	cereals	c	216	302	86	1	11	reg	reading label
23	pot	0	heat	u	302	308	6	1	11	reg	NA
24	oil	olive	oils&fats	c	304	310	6	1	11	reg	NA
25	salt	0	spice	c	310	312	2	1	11	reg	NA

Figure S2. Fragment of raw data collected for P11 in the study. We recorded an average of 324 interactions per meal.

4. Data analysis

We analysed data using a mixed methods approach, blending summaries from quantitative methods and contextual interpretations of qualitative data. The quantitative data was analysed through statistical methods (including descriptive and inferential methods) using 'R', while the qualitative data was analysed using an ethnographically inspired approach. We devised a list of analysis methods for the purpose of obtaining as much information as possible about the interactions of people with items. We aimed to answer many questions such as, “Which items do people interact with?”, “Where do people interact with items?” and, “How do people interact with items?”

```
# ===== 3. summary participants function =====
summary.analysis <- function(session){

  #function variables
  rows.participants <- c("p", "inter", "inter_CPG", "items", "items_CPG", "mean", "sd", "median", "mad",
    "range", "min", "max", "duration(m)", "inter_u", "inter_e", "items_u", "items_e",
    "mean_cpg", "mean_u", "mean_e", "median_cpg", "median_u", "median_e")

  len.stats <- length(rows.participants)

  ### create data frame
  summary.df <- data.frame()
  for (row in rows.participants){summary.df[[row]] <- as.numeric()}
  summary.df[nrow(summary.df)+participants,] <- NA #add empty NAs
  #add items.names to data frame(df[,1])
  summary.df[,1] <- c(1:participants)

  # select data
  if (session == "reg"){
    session.list <- reg.list
  }
  else if (session == "new"){
    session.list <- new.list
  }

  #number of interactions per participant
  for (p in 1:participants){

    # call freq.analysis function and assign to variable
    freqs.data <- freqs.analysis(session)

    # interactions to data frame (df[p,2])
```

Figure S3. Excerpt of R script used to conduct the statistical data analysis.

5. Data summaries

After the initial exploratory process, we summarised the results of the statistical analysis and gradually narrowed the focus of our analysis. These results led us to further limit the focus of our analysis and to proceed with the integration of qualitative insights.

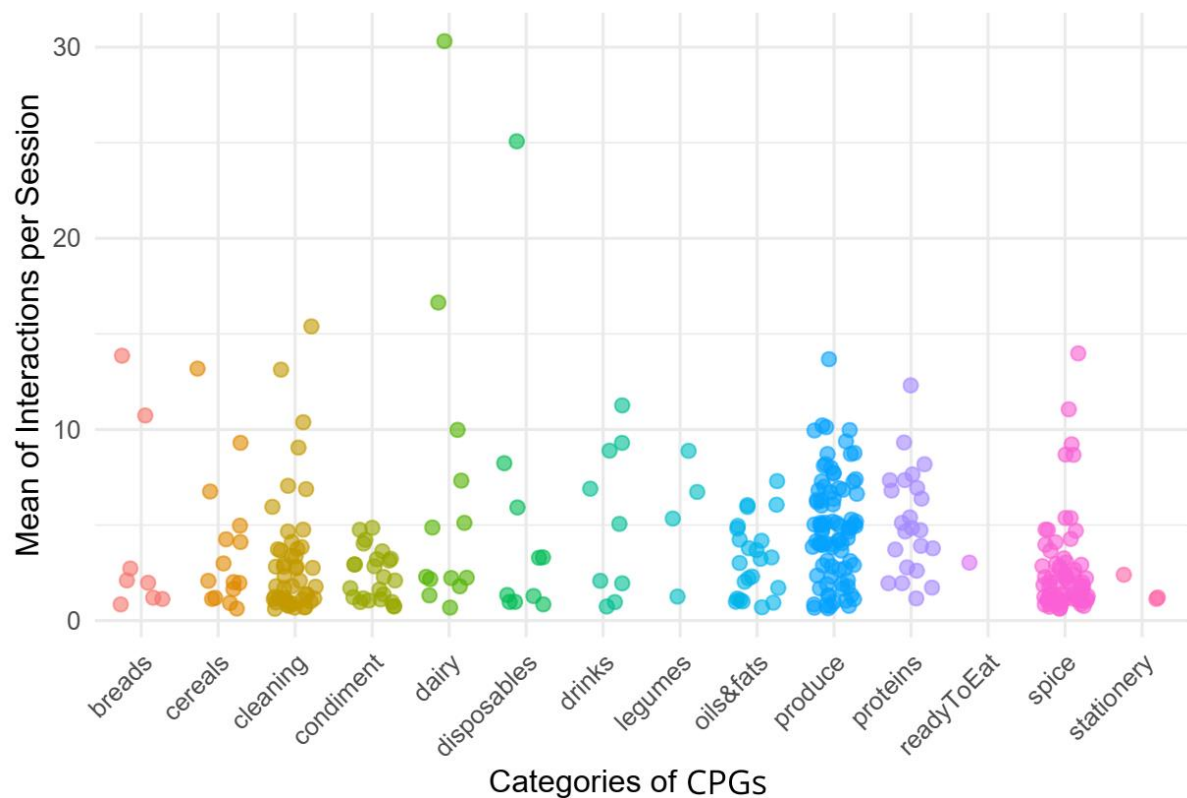


Figure S4. An example of summaries of statistical results. Graph representing the mean number of interactions per session for each category of CPGs.

6. Data integration

Informed by findings from the statistical analysis, we applied qualitative contextual interpretations to investigate selected aspects of consumer goods interactions. For example, after identifying that some of the interactions with CPGs coincided with reading labels on the packaging, we used video observation and relevant comments made during the interviews to detail the process of gathering information from packaging via reading labels.



Figure S5. Instances of information gathering showing four purposes of reading labels, including: measuring out a portion, verifying information, checking instructions, and satisfying curiosity.

7. Data visualisations

To present our data in an accessible and understandable manner, we made use of different visualisation representations. We selected four aspects for CPGs which we believed to represent the complexity of their use in practice, and which could help to inspire design of enhanced CPGs.

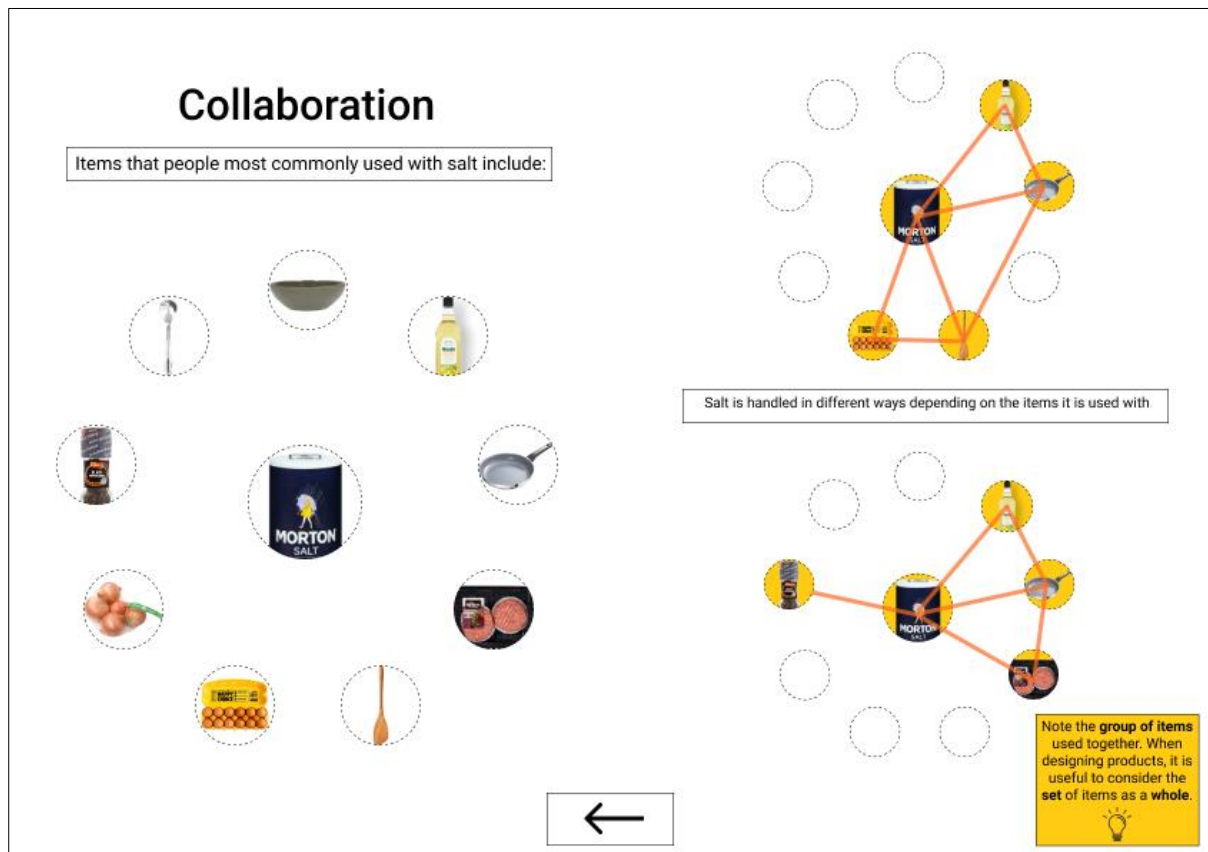


Figure S6. Example of one of the data visualisations for the CPG “salt”. The visualisation shows the sets of utensils and CPGs most commonly used with salt.