

# Testing ordering interventions: Executive Summary

Results available: Results available

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The production, transportation, storage, and waste of food products have a significant impact on the environment. The UK government's National Food Strategy (Dimbleby, 2021), an independent review of England's entire food system, recommends that multiple interventions are required for healthy and sustainable diets to create a long-term shift in our food culture. Online supermarkets constitute an increasingly large share of grocery shopping, 12.6% of grocery sales were made online in March 2022 compared with just 8.0% three years ago (McKevitt, 2022). Therefore, it is important to understand how interventions in online shopping environments affect consumer choices in relation to the sustainability of products.

We investigated whether a specific choice architecture intervention – displaying products in an ascending order of their carbon footprint – in an online supermarket environment can shift consumer choices towards more sustainable options compared to when products are randomly ordered. We also examined whether the effect of the ordering intervention differs when the ordering is overt, where information about the ordering is explicit, compared to when it is covert and participants are not told about the ordering.

We conducted a three-arm parallel-group randomised trial using a sample of 1842 online panel participants from England, Wales, and Northern Ireland, who had previously shopped online, representative of age, gender and ethnicity. Participants completed a shopping task for a meal for two, choosing one product from each of the six prespecified product categories in a simulated online supermarket environment. Six products were shown in a vertical list on each product category page. Products were randomly ordered for the control arm, whereas the products were ordered by carbon footprint in the covert and overt ordering arms. In addition, in the overt ordering arm, the following statement was displayed in a box at the top of each product page: "The products on this page have been ordered from the most environmentally sustainable to the least environmentally sustainable. This is to make it easier for you to choose a more sustainable product if you wish.". Participants were randomly allocated to one of the three arms with equal probability. The primary outcome was whether one of the three most sustainable products was chosen in each product category. Participants were blinded to the objective of the trial and experimental conditions, other than their own, until the debrief at the end, and our analyst was blinded to the assignment of experimental arms during initial data analyses.

The key findings are as follows:

- Covert ordering did not affect consumer choices, because there was no effect of a product's position in the list on choice, contrary to evidence in the literature.
- Choices seemed to be mainly driven by prior preferences, suggesting preferences for grocery products might be too ingrained to be changed by subtle rearrangements of choice architecture like the ordering interventions.
- There was no significant difference between the effects of covert and overt ordering interventions.
- Only a small proportion of people correctly identified that the products were ordered by sustainability when the information was explicitly given, highlighting the difficulty of conveying information in the online shopping environment.

There was no effect of the covert ordering intervention on the probability of choosing more sustainable products versus less sustainable products, compared with the control arm (OR = 0.97, 95% CI 0.88-1.07,  $p$ -value = 0.533). Furthermore, our hypothesis that the effects of the covert ordering intervention and overt ordering intervention do not differ could not be rejected ( $p$ -value = 0.594). Contrary to our assumptions, analysis of the control condition showed that the positioning of products had no effect on choices, which may explain why re-ordering products also had no effect. In the overt condition, only 19.5% of people correctly answered that the products were ordered according to sustainability in a follow-up question, suggesting that they didn't notice the statement.

The results suggest that preferences for grocery products might be too ingrained to be changed by subtle rearrangements of choice architecture like the ordering interventions. Choices seemed to be mainly driven by prior preferences over the options, rather than by their position on a list, and the majority of participants did not notice a statement about the sustainability ordering in the overt-ordering arm, despite it being pinned to the top of every page. Nevertheless, the results could be specific to the details of the trial design in this study; therefore, whilst we did not find a significant effect we cannot rule out the potential for ordering interventions to cause an effect. In particular, it would be worth determining how to get participants to pay more attention to the statement about the sustainability ordering and then investigating how people respond to it. As this is the first study looking at the effects of product ordering interventions based on the environmental impact in an online shopping environment, more research is needed to strengthen the evidence base and our understanding of whether, and in what context, such interventions could work.

The study was preregistered on Open Science Framework (<https://osf.io/ehd2j>) before trial launch and any data collection. The study was funded by the Food Standards Agency.