

Oat Milk, Plant-Based Burgers, and Cauliflower Rice: Evaluating Label-Induced Consumer Category Confusion

John McCoy (jpmccoy@wharton.upenn.edu)
The Wharton School, University of Pennsylvania

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Abstract

Whether products such as almond milk, plant-based burgers, and cauliflower rice may use the name of the category they resemble is currently being decided by legislatures, regulators, and courts worldwide. These decisions turn partly on an empirical question: are the contested labels more likely to cause consumer confusion than alternatives, for example, do consumers give different calcium estimates for ‘almond milk’ versus ‘almond drink’? Eight pre-registered studies address this question by estimating label-induced consumer confusion with a variety of products, paradigms, and populations. Consumers hold mistaken beliefs, for example about product composition, but these mostly did not depend on the label. Most contested labels did not increase consumer confusion, with the consistent exception of ‘cauliflower rice’, and some decreased consumer confusion. The psychology behind when labels will cause category confusion is investigated with a category induction paradigm.

Keywords: categories, labels, plant-based meat, consumer confusion

Products such as oat milk, plant-based burgers, vegan mayonnaise, cauliflower rice, and lab-grown meat change or remove an attribute traditionally regarded as core to the category for which they are named. These products are increasingly popular and relate to societal issues such as climate change and human health. However, how these products may be labeled is currently being debated by legislatures, regulators, and courts worldwide. Almond milk may currently be labeled ‘milk’ in the United States (U.S.), but not in the European Union (E.U.) or United Kingdom (U.K.); vegan ice cream may be labeled ‘ice cream’ in the U.K., but not in the U.S.; ‘cauliflower rice’ is prohibited in several U.S. states; and the E.U. recently reserved many meat-related terms for animal products with debates to add more terms to this list scheduled. Web Appendix A provides further details and examples.

Central to these disputes is whether a product label increases the likelihood of consumer confusion ([Gleckel 2020](#)). We investigate empirically the simplest version of this question, namely whether the disputed labels change the beliefs of consumers. Such confusion may concern product composition, for example beliefs about beef in ‘plant-based burgers’ versus ‘plant-based patties,’ or attributes of the product, especially nutritional properties, for example, as referenced by the U.S. Food and Drug Administration (FDA), the amount of calcium in ‘almond milk’ versus ‘almond drink’ ([U.S. Food and Drug Administration 2023](#)). The issue is not whether consumers have mistaken beliefs about a product, but whether a disputed label makes such beliefs more likely. Proponents of banning, for example, the label ‘almond milk’ argue that it increases the likelihood of consumer confusion. Those in favor of the label argue that confusion is unlikely, and that a ban may actually increase confusion because consumers are unsure what the alternative labels mean.

These legal and policy debates depend on questions of consumer confusion ([Gleckel 2020](#); [Negowetti 2020](#); [Pisanello and Ferraris 2018](#)). The relevant U.S., E.U. and U.K. legal context is described here; Web Appendix A provides further details. Consumer confusion is a central principle in consumer protection law which prohibits labels that are likely to mislead a reasonable consumer. Proof of actual deception or harm is not necessary. Consumer confu-

sion also plays an important role even when category names are defined by law, for example FDA standards of identity for milk, mayonnaise, and ice cream and E.U. reserved designations for dairy terms. In the U.S., the First Amendment protects commercial speech that is not misleading, and courts have allowed qualified labels such as ‘almond milk’ despite standards of identity, holding that no reasonable consumer could be misled by them ([Painter v. Blue Diamond Growers 2018](#)). The FDA’s 2023 draft guidance ([U.S. Food and Drug Administration 2023](#)) would let plant-based milks use ‘milk’ because the agency concluded that consumers understand that these products do not contain milk. The guidance recommends voluntary nutritional statements. More recent FDA draft guidance has emphasized consumer understanding over rigid definitions ([U.S. Food and Drug Administration 2025](#)). In the E.U., dairy terms, even with qualifiers, are reserved for animal-derived products. In upholding this regulation, the court justified this breadth by virtue of avoiding consumer confusion ([TofuTown 2017](#)). Moreover, preventing consumer confusion is used by proponents as justification for prohibiting disputed labels ([Office of Sen. Peter Welch 2023](#); [Council of the European Union 2025](#)).

Existing peer-reviewed evidence on whether the disputed labels increase consumer confusion is very limited. While interesting, most existing surveys have involved small or non-representative samples in a single jurisdiction with only a few products and little triangulation across paradigms. Most measure beliefs about composition and do not compare the disputed label with its suggested alternative (e.g., ‘almond milk’ versus ‘almond drink’). [Feltz and Feltz \(2019\)](#) showed U.S. participants images of dairy and plant-based milks and cheeses and concluded that participants accurately identified which used cow’s milk. [Gleckel \(2020\)](#) randomized the product labels seen by participants and concluded that different labels did not result in mistaken beliefs. In the U.K., [De-Loyde et al. \(2026\)](#) found that adding ‘milk’ to milk-substitute labels produced small changes in whether participants would add the products to tea or coffee and in whether they believed the products came from animals. [Feltz et al. \(2025\)](#) report four experiments finding little composition confusion under either

labeling and reduced confidence about product use when terms are removed. [Demartini et al. \(2022\)](#) found in Italian samples that meat-sounding labels raised perceived healthiness and that a ‘vegan’ label lowered perceived tastiness, healthiness, and willingness to buy. Advocacy surveys on both sides have featured in policy and legal briefs ([Gleckel 2020](#)), although they rarely compare beliefs with labels randomized across participants. A separate literature specifically studies names for cultivated meat and seafood (e.g., [Hallman, Hallman, and Hallman 2023](#); [Malerich and Bryant 2022](#)).

This paper’s empirical approach draws on two literatures. Consumer confusion is central to questions of trademark infringement (e.g., [Bird and Steckel 2011](#); [Jacoby 2001](#); [Simonson 1994](#); [Beebe et al. 2019](#)), but has not seen the same attention from marketing scholarship in other areas. Some of this paper’s studies are directly inspired by trademark confusion paradigms, such as simulated choice surveys ([Simonson 1994](#)). Studies of trademark confusion offer valuable lessons, especially the need for multiple survey paradigms and variations within paradigms, the need to minimize demand characteristics, and the usefulness of understanding the relevant consumer psychology. For that psychology, we turn to category-based induction, which involves how people infer properties of an entity from its category, including as indicated by the category label ([Osherson et al. 1990](#); [Yamauchi and Markman 2000](#)). This has been applied to work in marketing to study how consumers use category knowledge to infer product attributes ([Moreau, Markman, and Lehmann 2001](#)). We use the argument strength paradigm from work on category induction to measure when confusion may result from product category labels.

This paper provides empirical evidence on whether particular labels increase consumer confusion using a range of products, labels, and experimental paradigms. We use nationally representative samples from the United States and the United Kingdom to allow for variation across jurisdictions with different labeling rules. While consumers show a variety of false beliefs, especially about product composition, we find little evidence of labels increasing confusion, with the systematic exception of cauliflower rice. In fact, some proposed alterna-

tive labels produced greater confusion about product composition than the contested labels they would replace.

OVERVIEW OF STUDIES

In the core studies to evaluate possible confusion, U.S. and U.K. nationally representative samples make nutritional or composition judgments about products with packaging using either a treatment label (e.g., ‘almond milk’) or a control label (e.g., ‘almond drink’). Additional studies measure possible confusion with alternative paradigms and investigate consumer confusion from the perspective of category induction.

All studies were pre-registered and the data is available.¹ Given space constraints, some pre-registered analyses are shown in the web appendices. Participants were asked not to look up information online. Participants were excluded if they gave inconsistent answers to their age and the year that they were born, or said they looked up information, or failed a disguised attention check. In some studies, an attention check asked participants to enter the brand name (‘Savora’) shown on the product packaging. The ‘r’ was slightly illegible and so the exclusion criterion was adjusted to not exclude participants who gave a different letter. The Web Appendices provide further information about the attention checks and exclusions.

In all studies, robust standard errors were clustered by participant. Unless specified, comparisons are presented after correction for multiple comparisons using the Benjamini-Hochberg procedure. Table captions specify how comparisons were grouped for correction. When treating Likert scale quantities as continuous, robustness was evaluated with Mann-Whitney U tests (in the Web Appendices), which showed similar results. Answers to questions about distractor products were not analyzed.

¹Pre-registrations and data available on ResearchBox: <https://researchbox.org/10438> (Code: SUTZJI).

STUDIES 1–4: ATTRIBUTE AND COMPOSITION INFERENCE IN U.S. AND U.K. NATIONALLY REPRESENTATIVE SAMPLES

Methods

Participants in all four studies were recruited from Prolific as nationally representative U.S. or U.K. samples. Table 1 reports each sample. Web Appendix B shows exclusion details.

Study	Sample			Gender			Diet	
	Recruited	Excluded	Final	Female %	Male %	Age	Veg. or vegan %	Omnivore %
1 (attributes, U.S.)	1002	296	706	49	49	46	8	82
2 (attributes, U.K.)	1000	200	800	51	48	48	10	82
3 (composition, U.S.)	799	98	701	50	48	46	8	80
4 (composition, U.K.)	798	95	703	51	48	46	11	84

Table 1: Samples for Studies 1–4. Diet also had an ‘Other’ option.

Participants answered questions about products. The products were labeled depending on condition, both on the product packaging and in the text of the questions. In the treatment condition, participants were shown almond milk, plant-based burgers, cauliflower rice, vegan mayonnaise, and vegan ice cream. In the control condition, participants were shown almond drink, plant-based patties, finely chopped cauliflower, creamy vegan spread, and vegan frozen dessert. Figure 1 shows the products presented to participants. The products used imperial measurements for the U.S. samples and metric for the U.K. samples. The terms ‘control’ and ‘treatment’ are used for convenience, with no assumption of which should be the default. When referring to products in both conditions, we use the treatment condition name. Participants also answered questions about distractor products (orange juice and tomato soup) to help obscure the study’s purpose. Participants first saw a distractor product, and then the remaining products in random order. Participants answered demographic, previous purchase, and purchase intent questions.

In Studies 1 and 2 (attribute inference), participants answered nutrition and usage ques-



Figure 1: Products presented to participants in Studies 1–4 (showing imperial measurements for U.S. samples).

tions. Participants used a text box to enter their estimates of the nutritional quantities (protein, fat, calories, carbs, and, for milk, calcium). Nutritional information for Greek yogurt and avocados was included. For example, the protein question included, “For reference, a cup of Greek Yogurt has about 20 g and an avocado about 3 g.” These benchmarks were chosen because the products were likely familiar, are not closely related to products in the survey, and vary across the nutritional quantities. Usage questions were asked on a 7-point Likert scale. More specialized usage questions included an eighth option “I know nothing about”, which was treated as missing data. There was a small difference in wording for the boiling question between the treatment and control condition.

In Studies 3 and 4 (composition inference), participants answered two questions about what percentage of each product consists of a specified ingredient. For example, “What percentage of this cauliflower rice product do you expect is made up of any kind of grain?” Due to an error, the almond drink questions used “this almond drink product” but the almond milk questions used “this product.” To disguise our interest in perceptions of product composition, participants estimated a reasonable price for the product and how environmentally friendly the product is (7-point Likert scale). These estimates were Winsorized (2%, 98%) within product and condition before analysis.

Results

For the attribute inference studies, we regressed participant estimates on product, attribute (nested within product), and condition. We estimated $Y_{ipa} = \alpha_{pa} + \beta_{pa} T_i + \varepsilon_{ipa}$, where Y_{ipa} is participant i ’s judgment for attribute a of product p , and T_i is an indicator for the treatment condition. The mean response for attribute a of product p under the control condition is α_{pa} and β_{pa} is the difference in mean responses between the treatment and control conditions.

Figure 2 shows the comparison between conditions using Cohen’s d and Web Appendix B shows the treatment effects estimated from the regression. In the U.S. sample, only 3 of the

27 comparisons were significant (at the $p < .05$ level), all of which involved cauliflower rice (calories, carbohydrates, and boiling as a preparation). In the U.K. sample, 8 of the 27 comparisons were significant. Four involved cauliflower rice (calories, carbohydrates, fat, and suitability for boiling), two involved plant-based burgers (calories and protein) and two involved vegan mayonnaise (carbohydrates and protein).

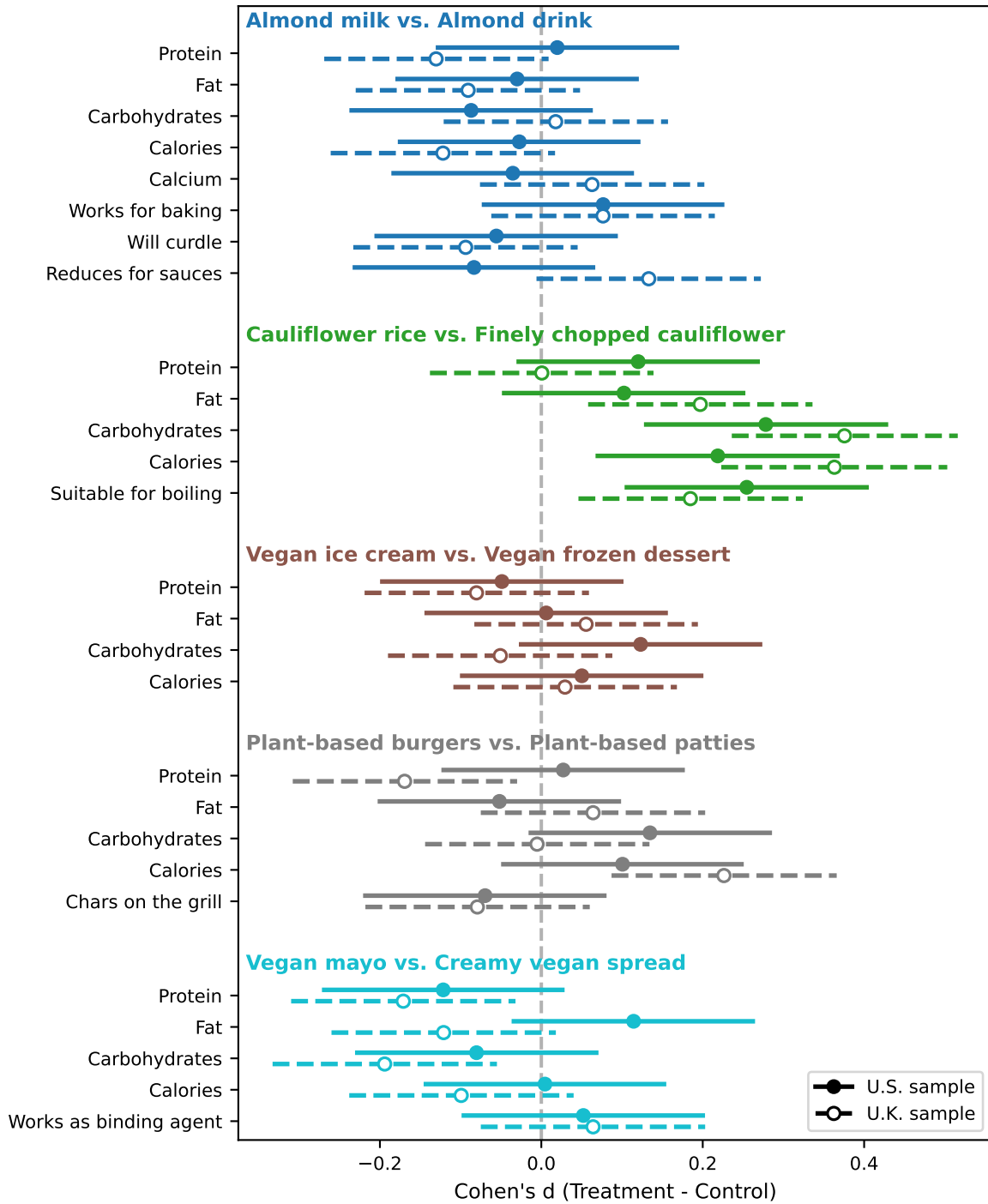


Figure 2: Cohen's d (95% confidence intervals) for nutritional estimates and usage judgments between treatment and control labeling conditions in Studies 1 and 2.

For Studies 3 and 4, we analyzed the composition question with a quasibinomial generalized linear model (using a logit link function) and regressed participant answers on product,

ingredient (nested within product), and condition. We estimated $\log \frac{\pi_{ipa}}{1-\pi_{ipa}} = \alpha_{pa} + \beta_{pa} T_i$, where π_{ipa} is the expected proportion of ingredient a that participant i attributes to product p , and T_i is an indicator for the treatment condition. Treatment effects were compared to 0 with Wald tests, correcting for the ten comparisons.

Figure 3 shows the comparison between conditions using Cohen’s d and Web Appendix B shows the treatment effects estimated from the regression. In the U.S. sample, five of the ten comparisons were significant after correction. Participants estimated that cauliflower rice contained a higher percentage of grain and a lower percentage of vegetable than finely chopped cauliflower. In the opposite direction, participants estimated less cow’s milk in almond milk than in almond drink, less cow’s milk in vegan ice cream than in vegan frozen dessert, and less animal meat in plant-based burgers than in plant-based patties. In the U.K. sample, only the two comparisons involving cauliflower rice were significant. Labeling did not significantly affect estimates of price or environmental friendliness in either sample.

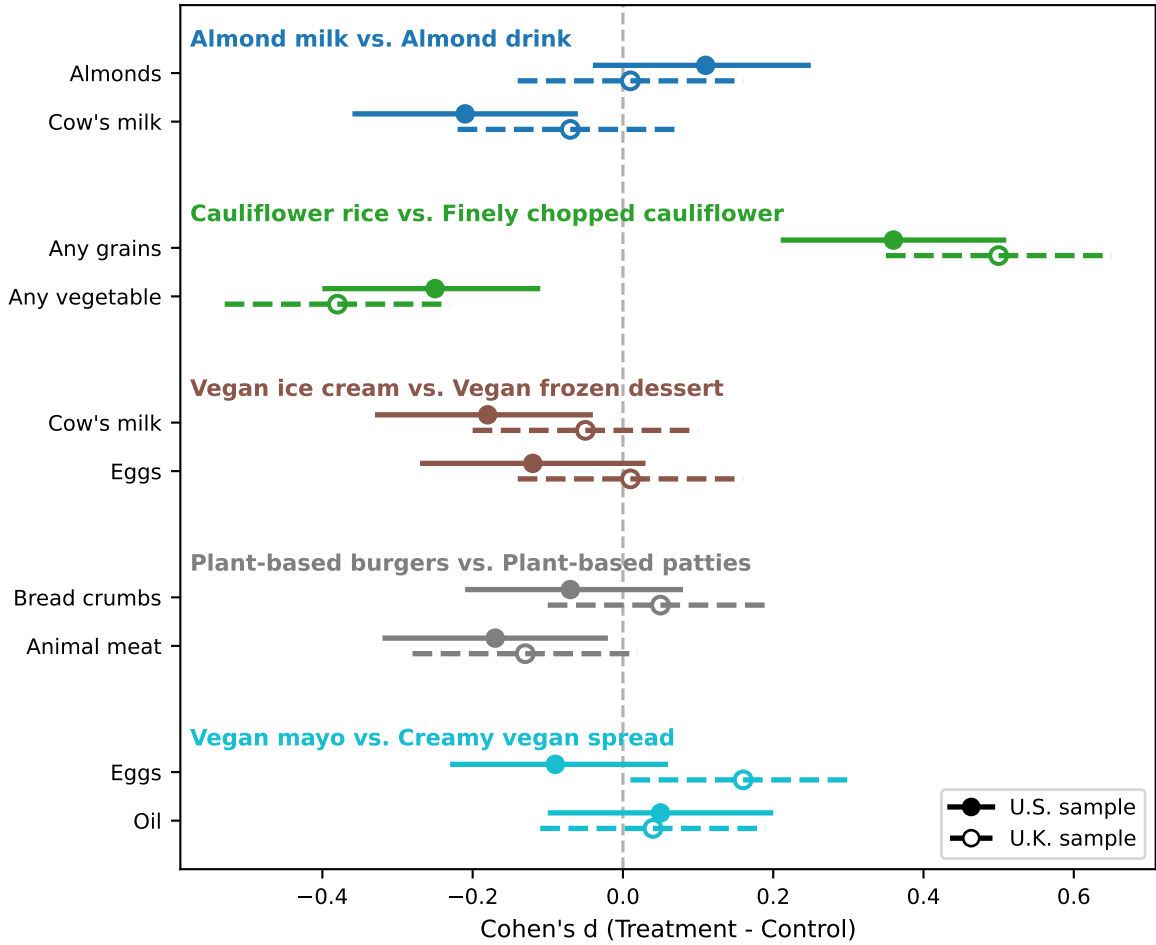


Figure 3: Cohen's d (95% confidence intervals) between the treatment and control labeling conditions for composition estimates in Studies 3 and 4.

We examined composition estimates specifically for ingredients that do not exist in the product, for example cow's milk for almond milk. For these product–property pairs, we compared the proportion of participants who gave an estimate above 1% in the two conditions (Chi-square test, Web Appendix B). For several of these products, a large proportion of both samples believed that they contained more than 1% of an ingredient that they did not contain. For example, between 20% and 30% of participants believed that more than 1% of vegan ice cream or vegan frozen dessert was composed of eggs and approximately 50% of participants believed that more than 1% of cauliflower rice or finely chopped cauliflower was composed of grains. In most cases there was not a significant difference between conditions.

In the U.S. sample, however, 11% of participants thought that almond milk was composed of more than 1% of cow’s milk, whereas 18% thought this for almond drink. In the same sample, 5% of participants thought that plant-based burgers were composed of more than 1% of animal meat, whereas 10% thought this for plant-based patties. No difference between conditions was significant in the U.K. sample.

To increase confidence that the lack of treatment effects is not due to participant inattention or answering randomly, we computed pre-registered positive controls separately for each condition across both questions and products. Figure 4 shows the positive controls for Study 1, and Web Appendix B for the other studies. In each attribute inference study, 25 of the 26 positive control comparisons were significant at the $p < .001$ level, and in each composition inference study all 16 positive controls were significant.

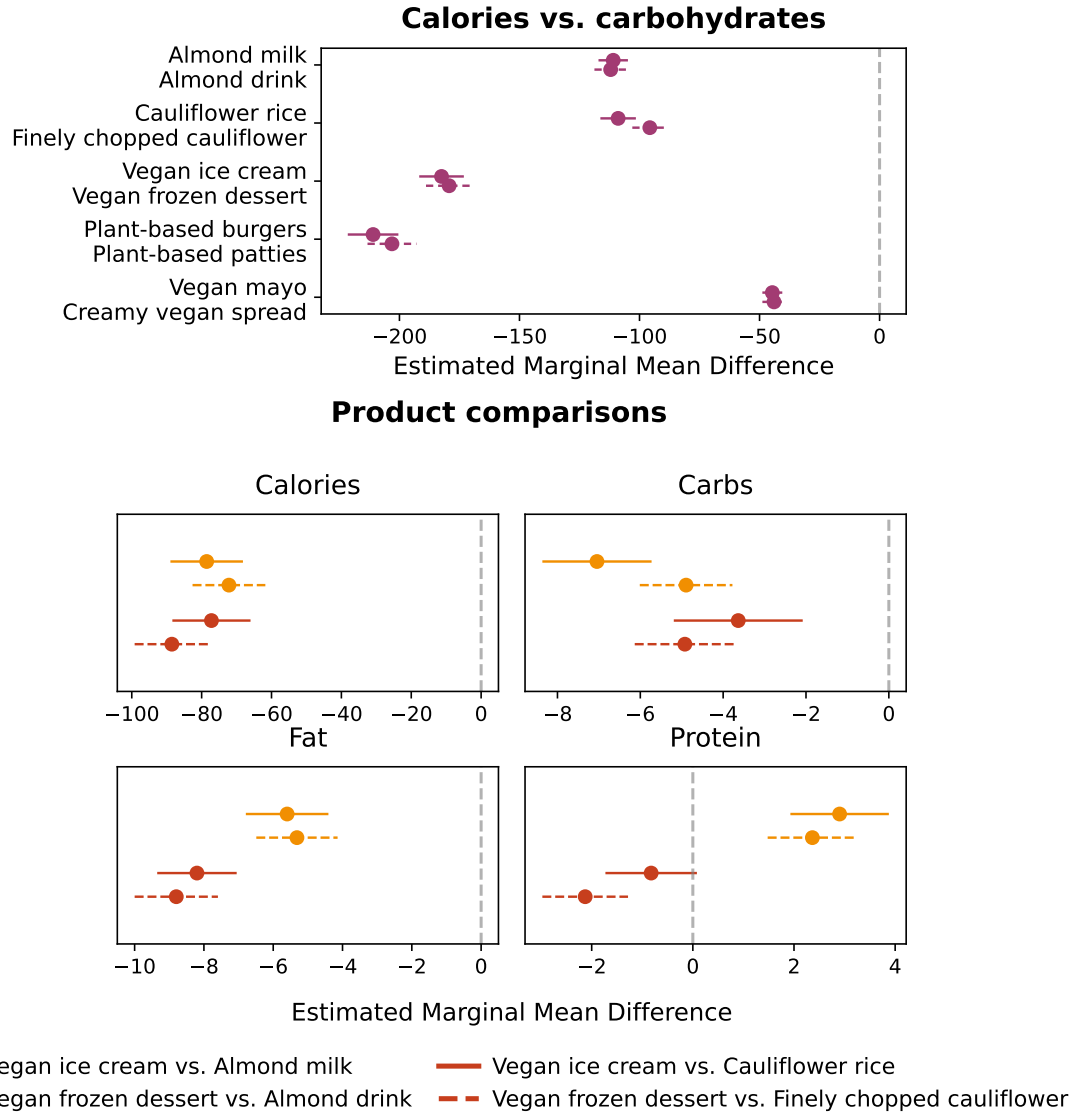


Figure 4: Positive controls for Study 1 across all participants within each condition. For each product, we contrasted participant estimates for calories versus carbohydrates. We also compared vegan ice cream to almond milk and vegan ice cream to cauliflower rice for protein, fat, calories, and carbohydrates. The positive controls show the expected differences across products and nutritional quantities. The top (solid) line shows the treatment group and the bottom (dashed) line the control group.

To evaluate the relationship between a participant’s judgments and whether they had purchased a product previously or intended to purchase a product, we re-estimated each model with these as separate moderators (Web Appendix B). The questions about previous purchases and purchase intent asked about generic classes of products (e.g. ‘vegetable-based

rice alternatives’) and were similar across conditions. For attribute inference, the treatment effects described above were more often significant in the two samples among those who had not previously purchased the product or who did not intend to purchase the product. For composition inference, there was not a systematic pattern of differences between treatment effects across the different moderator values. There was not a significant interaction between the treatment effect and either moderator for any attribute (all adjusted $p > .05$), but such interaction tests are considerably less powered.

STUDY 5: INGREDIENTS LISTING

It is important to use a variety of paradigms to evaluate consumer confusion. To evaluate composition confusion, Studies 3 and 4 asked participants to estimate percentages for specified ingredients. This study instead asked participants to list ingredients they expected a product to contain, allowing us to examine whether labeling changes which ingredients come to mind.

Methods

Prolific participants (N=996; mean age: 43; 60% female, 38% male) saw pictures of products and listed up to ten ingredients they expected each to contain, ordered by expected composition percentage. The products were the same as in the previous studies, but with different packaging, and two new distractor products (see Web Appendix C). The labeling condition was randomized within participant for each product. Participants answered demographic, previous purchase, and purchase intent questions. An undergraduate research assistant standardized responses into ingredient categories and the author checked for, and corrected, any errors. The original responses and standardizations are available on ResearchBox.

Participants were excluded for inconsistent age and birth-year answers or for looking up information (74 total). A disguised attention check, a tomato soup product whose prompt

instructed participants to write ‘blue’ in the first box, was passed by only 39% of participants. Those who failed overwhelmingly listed tomato soup ingredients rather than answering randomly, and failure tended to increase the later in the survey the check appeared (Web Appendix C). We report the preregistered analysis on participants who passed the check (355 participants) and a non-preregistered analysis in Web Appendix C that includes those who failed it (922 participants). Both show similar results.

Results

For a given product and ingredient, we compared the proportion of participants who listed the ingredient across the two label conditions. We did not correct for multiple comparisons. Figure 5 shows the condition differences for specified ingredients from the pre-registration or listed by at least 10% of participants in either condition. Of these 40 comparisons, 7 were significant at the $p < .05$ level amongst participants who passed the attention check. In particular, participants shown cauliflower rice were far more likely to list rice than those shown finely chopped cauliflower (22% versus 1%). The other 6 significant comparisons did not involve pre-specified ingredients and included another ingredient for cauliflower rice, four ingredients for plant-based burgers (soy and beans were listed less often under the burger label, plant-based protein and water were listed more often), and an ingredient for vegan mayonnaise. Restricting our analysis to only the first three ingredients listed by participants gives similar results (Web Appendix C).

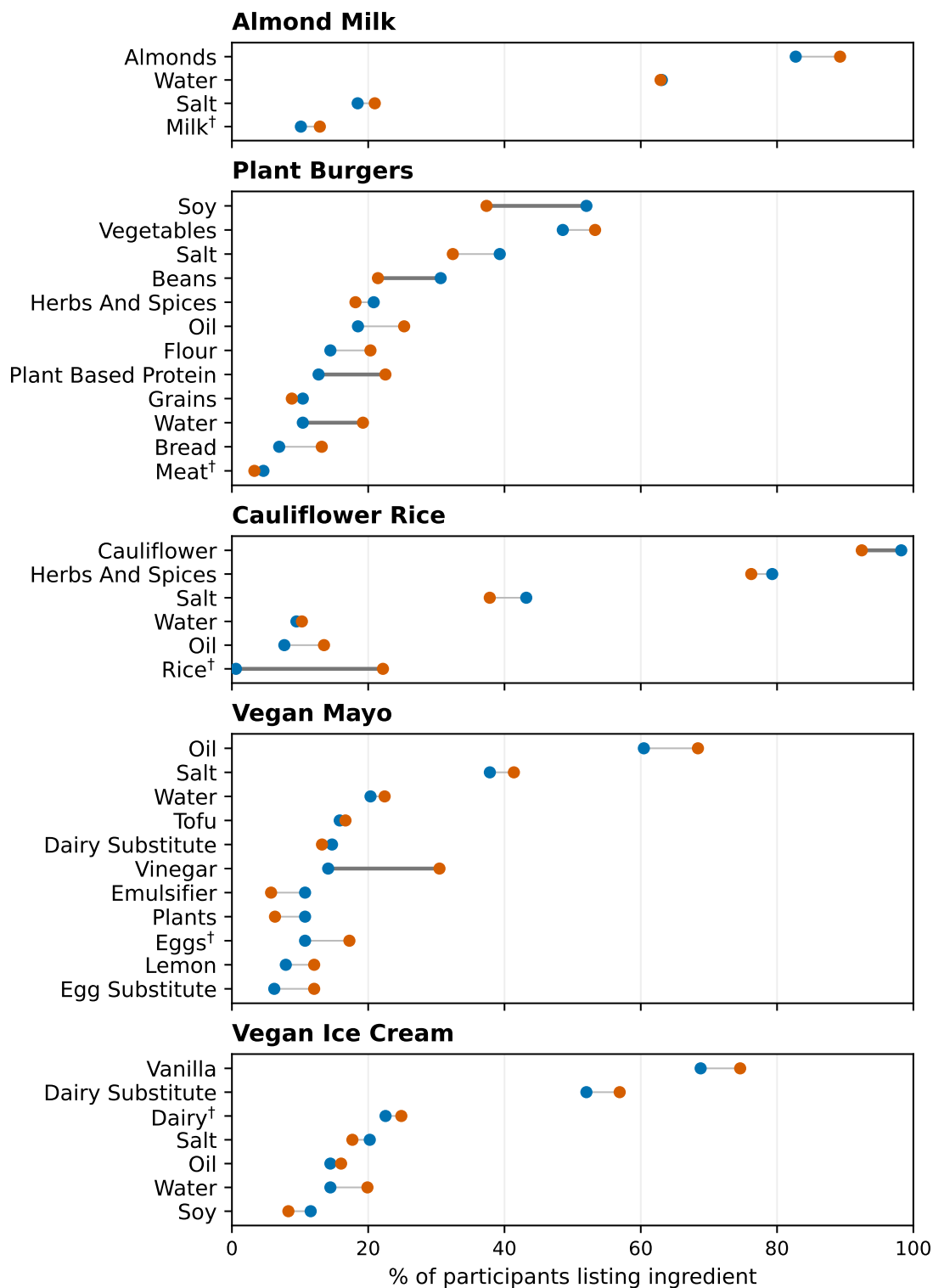


Figure 5: Percentage of participants (who passed the attention check) listing each ingredient in the treatment (orange) and control (blue) conditions for Study 5. Ingredients shown were specified in the pre-registration (†) or listed by at least 10% of participants in either condition. A dark line joining the two conditions indicates a significant difference ($p < .05$).

Repeating the analyses within subsets defined by previous purchase and purchase intent (Web Appendix C) showed no reliable pattern. The rice effect for cauliflower rice was present in every subset and was larger among participants who had not purchased, or did not intend to purchase, vegetable-based rice alternatives.

STUDY 6: SIMULATED CHOICE STUDY

Simulated choice surveys in trademark disputes place participants in a simulated purchase, and then have them answer questions about the products that they chose between rather than have them respond to products in the abstract (Simonson 1994). We adopt this paradigm to evaluate confusion in our context: participants chose between a focal product (with one of two labels) and a related alternative before rating both. This study also varied the paradigm in other ways to ensure generality. It used a different set of products, including oat milk, broccoli rice, and plant-based sausages; participants rated nutritional attributes as a percentage of daily allowance on 7-point scales rather than giving open-ended estimates; it measured familiarity with each product category as a possible moderator rather than previous purchases and purchase intent; and participants were recruited from a different panel (Connect rather than Prolific). The almond milk/drink and oat milk/drink were also labeled as ‘unfortified’ on the packaging, unlike the previous studies.

Methods

Participants (N=1414; mean age: 45; 51% female, 48% male) were a nationally representative U.S. sample recruited from Connect. Participants were assigned to a treatment or control condition which determined how the products they saw were labeled, both on the product packaging and in the questions. Each participant was randomly assigned to one of each of four kinds of product: oat milk or almond milk, broccoli rice or cauliflower rice, plant-based burgers or plant-based sausages, and vegan ice cream or vegan mayo (or their control condition labels).

For each product (images in Web Appendix D), participants chose between the focal product (with the treatment or control label) and a related distractor product (for example, between the milk product and a protein shake) then rated both products on nutritional attributes (as a percentage of daily allowance) and other attributes on 7-point scales. A pair of distractor products (chips and pretzels) was also included. Finally, participants rated their familiarity with each product category on a 3-point scale and answered demographic questions.

Participants who gave inconsistent age and birth-year answers (23 participants) or who looked something up (12 participants) were excluded. One disguised attention check asked about daily ‘color needs’ for the milk products and told participants to select the 11-15% option (219 participants failed). A second asked about daily mineral content for the plant-based meat but told participants to select the second option (549 participants failed). Many of those who failed gave reasonable answers to the daily mineral content question, for example there was a high correlation between answers to this question and a question about iron content ($r = .66$). Given the high failure rate, we report results for participants who passed both checks (764 participants) as pre-registered, and results that include those who failed (1,378 participants; Web Appendix D). Results are similar.

Results

We used a linear model to regress participant ratings on product, attribute (nested within product), and condition. Figure 6 shows a comparison between conditions with Cliff’s delta (the probability that a treatment rating exceeds a control rating, minus the reversal) and Web Appendix D shows treatment effects estimated from the regression. There was little effect of changing the labels. Of the 45 comparisons, 6 were significant after correcting for multiple comparisons, all but one of which involved the vegetable-based rice alternatives. The sixth effect was that participants rated vegan mayonnaise as less creamy than creamy vegan spread.

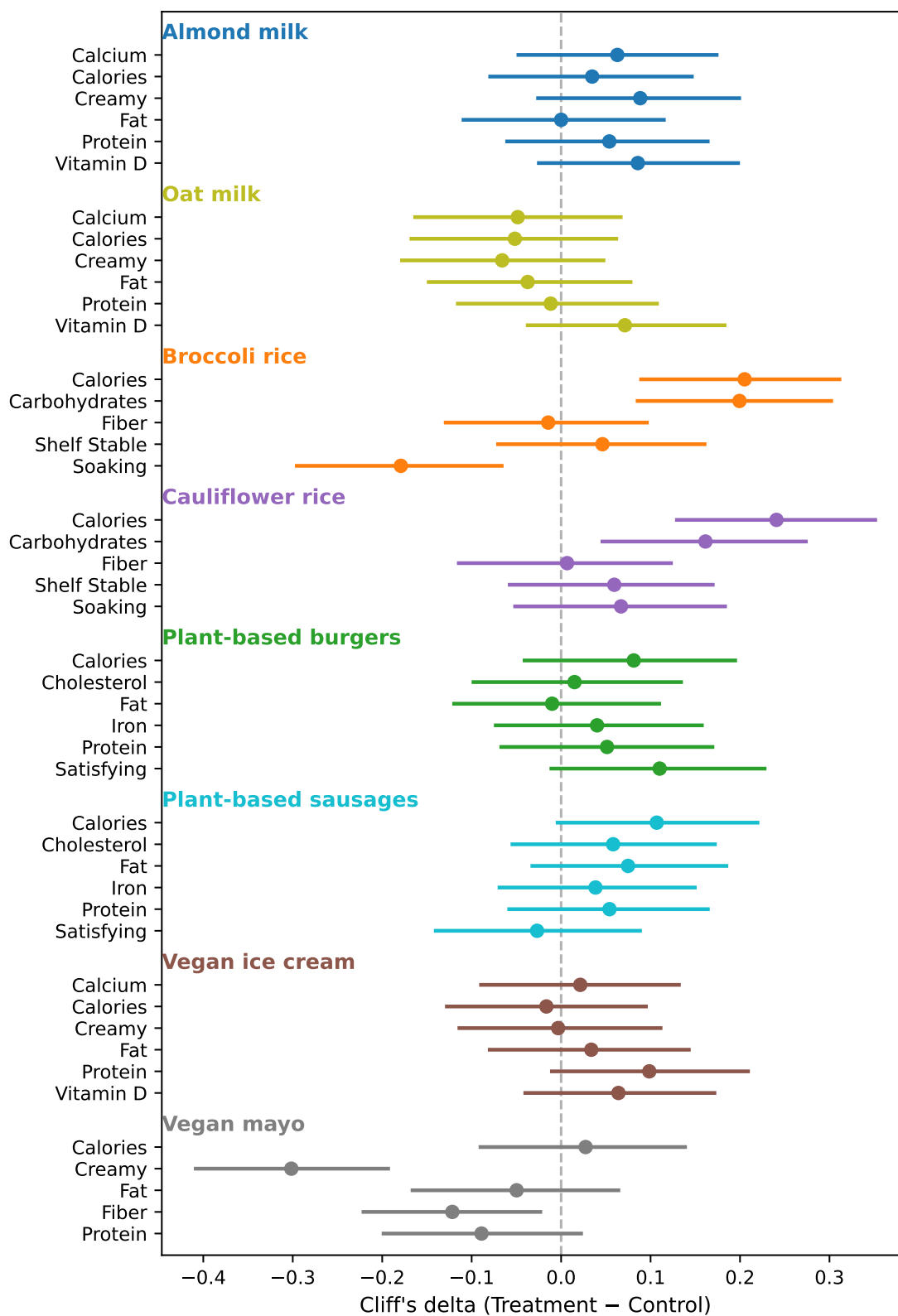


Figure 6: Cliff's delta (95% confidence intervals) between the treatment and control labeling conditions in Study 6, among participants who passed both attention checks.

Of the 56 positive control comparisons, computed within and across products, 54 were significant (at the $p < .05$ level after correction; Web Appendix D). A logistic regression showed no effect of labeling on whether participants chose the focal product over the distractor product. Familiarity with the product category (Web Appendix D) did not moderate any treatment effects after correction for multiple comparisons.

STUDY 7: NOVEL PRODUCTS

This paper focuses on evaluating potential consumer confusion from existing disputed labels on common products. Study 7 examined how any of multiple possible labels for products still under development, specifically meat and milk cultured from cells, may lead to confusion. Complete descriptions of the methods and results are in Web Appendix E. Participants (N=2109 after exclusions) evaluated a package labeled either as the conventional product ('Farm-raised chicken' or 'Milk') or as 'cultivated', 'lab-grown', or 'cell-cultured', and estimated nutritional quantities and other attributes on 7-point scales. The products in the novel-labels conditions included a one-sentence description of the production method. Comparisons across the novel-label conditions involve products with the same product but different labels, whereas comparisons to the control condition have different production methods.

Nutritional estimates did not differ significantly between any pair of labels for either product. Labels did affect other judgments, for example all three novel chicken labels were expected to be less satisfying than farm-raised chicken, and lab-grown milk was expected to be less creamy than milk.

STUDY 8: CATEGORY INDUCTION

This paper's primary purpose is to answer the substantive question of whether disputed labels result in consumer confusion. Here, we explore when such confusion is likely in principle by examining the category structure that would underlie any inference differences across

labels. Labels like ‘almond milk’ versus ‘almond drink’ potentially cause inferences about the product to be induced from different superordinate categories (milk versus drinks). We theorize that label differences occur if two conditions hold: the label changes how strongly product inferences draw on different categories and the categories differ on the property being asked about.

In the argument strength paradigm from research on category-based induction, participants read that one category has a property and judge how likely it is that another category shares it, for example that if robins have a certain enzyme then sparrows do too (Osherson et al. 1990; Hayes, Heit, and Swendsen 2010). The property is novel or left blank, so the judgment reflects how strongly one category inductively supports conclusions about the other. We use this paradigm to measure whether a product label changes which broad category consumers draw on when inferring the product’s properties. We also evaluate how the different broad categories differ on relevant properties.

Methods

In an argument strength survey, Prolific participants (N=501; mean age: 43; 53% female, 45% male; 467 after exclusions) answered questions of the form “Given that [category] tends to have property P, does [product] tend to have property P?” on a 7-point scale (‘Very unlikely’ to ‘Very likely’), with P unspecified. Participants were assigned to a treatment or control condition that determined the labels of the products as usual (e.g., ‘almond milk’ versus ‘almond drink’). Each product was paired with either two or three broad categories (e.g., milk and drinks for almond milk / almond drink, and meat, plant-based proteins, and bacon for veggie bacon / crispy veggie strips).

In a survey of category properties, a separate sample of Prolific participants (N=402; mean age: 43; 53% female, 45% male; 398 after exclusions) rated many properties for each of the twelve broad categories as ‘Low’, ‘Moderate’, ‘High’, or ‘Depends too much on type of [category] to say’. Categories in a pair in the argument strength study were rated by different

participants (with meat, bacon, and burgers in one condition and plant-based proteins in the other). Web Appendix F contains full results of these surveys.

Results

We first examined whether different labels change the inductive support. Figure 7 shows, per-label for each product, the argument strength from each category and the within-participant difference between the categories. Differences were evaluated with Mann-Whitney tests (Web Appendix F). For almond milk, oat milk, and plant-based burgers, argument strength did not differ by label. Rice supported inferences more strongly for cauliflower rice than for finely chopped cauliflower, vegetables more strongly for finely chopped cauliflower, and the rice-vegetables difference differed between labels. Meat, bacon, and plant-based proteins supported inferences more strongly for veggie bacon than for crispy veggie strips and the meat versus plant-based proteins difference was significant. Creamy spreads supported inferences more strongly for creamy vegan spread than for vegan mayonnaise, and the mayonnaise versus creamy spreads difference was significant between the labels. For vegan ice cream versus vegan frozen dessert, neither category differed alone, but the ice cream versus frozen desserts difference was significant.

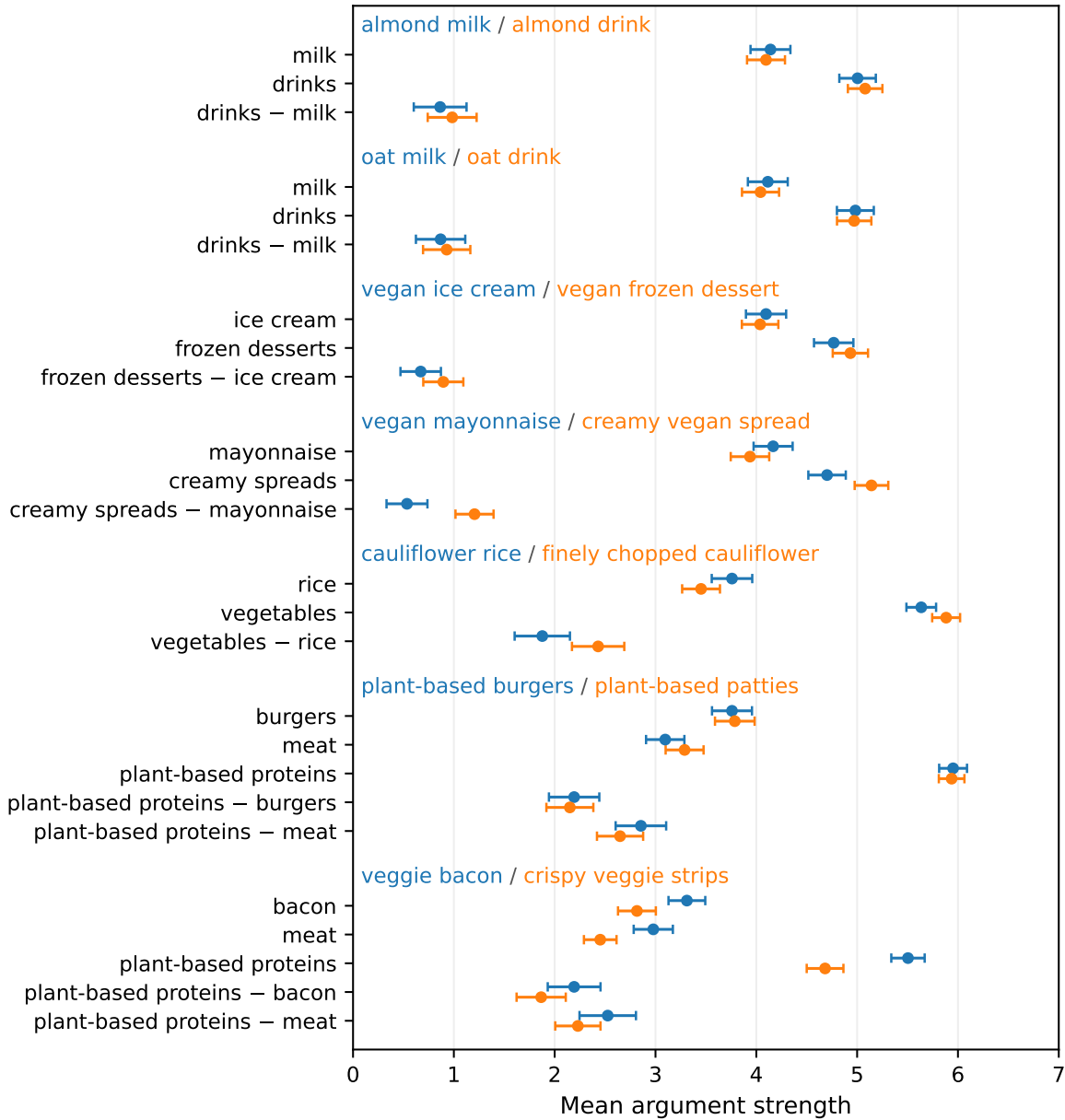


Figure 7: Mean argument strength (95% confidence intervals) from each category and their differences for each product under the treatment (blue) and control (orange) labels.

We next examined whether the relevant properties differ across categories. Of 67 property comparisons between categories, 47 were significant (Mann-Whitney tests on ratings, excluding ‘Depends’ responses). Some category pairs differed on most properties, for example milk versus drinks and rice versus vegetables, whereas others, for example ice cream versus frozen desserts, differed on only a small number. Web Appendix F shows results for

all categories and properties.

Lastly, we examined when both conditions hold. That is, we identified properties of products that differed significantly between two categories that themselves differed significantly in their argument strength across labels. Cauliflower rice had eight such properties and veggie bacon had ten. However, vegan mayonnaise had only three, vegan ice cream two, and almond milk, oat milk, and plant-based burgers had none (Web Appendix F). This suggests which products are likely to show differences across labels.

DISCUSSION

The purpose of this paper was to empirically measure whether the labels currently being debated in policy and legal disputes worldwide affect consumer beliefs or lead to consumer confusion. Across multiple studies, paradigms, and samples, contested labels rarely changed what consumers believed about a product’s composition or attributes. Positive controls suggested that participants were not simply inattentive and that expected effects could be detected.

The exception was vegetable-based rice alternatives, such as cauliflower rice, which consistently showed an effect of the label. Other cases where labels did show a significant effect often ran counter to the direction suggested by those proposing bans on labels that use the original category term. For example, in U.S. samples, ‘almond milk’ and ‘vegan ice cream’ reduced beliefs that the products contained cow’s milk relative to suggested alternatives. Similarly, respondents believed that there was more animal meat in plant-based patties than in plant-based burgers. This is consistent with the argument that replacements for familiar category terms can be less informative. More generally, plant-based burgers (relative to plant-based patties) showed scattered effects: in the U.K. attribute inference study it showed a difference for calories and protein and it showed some differences in the ingredient listing study, although not for meat. Participants were often mistaken, for example many believed that vegan products could contain eggs, but not as a function of the package label.

he clearest exception was vegetable-based rice alternatives, such as cauliflower rice, for which the disputed labels consistently increased confusion. For several other products, however, the proposed alternative labels produced greater confusion than the contested labels they would replace. In the U.S. composition study, participants estimated more cow’s milk in almond drink than in almond milk, more cow’s milk in vegan frozen dessert than in vegan ice cream, and more animal meat in plant-based patties than in plant-based burgers. These differences were not significant in the U.K. sample. The U.S. findings nevertheless suggest that replacing familiar category terms can sometimes make product composition less clear. Proposed labeling restrictions therefore need to be evaluated against the alternatives consumers would encounter: removing a contested term does not necessarily improve understanding and may introduce additional confusion.

In the category induction study, cauliflower rice indeed showed more properties on which confusion could arise than other tested products. That is, its two labels drew different arguments strengths from two different superordinate categories, and those categories differed on many relevant properties. We suggest that category induction provides a useful conceptual perspective to understand the ongoing labeling debates. Further work should evaluate labeling confusion for veggie bacon, which the category induction study identified as likely to cause confusion.

We hope that this paper provides useful evidence to inform the ongoing policy and legal debates around these products. More generally, we suggest that products like almond milk and plant-based or cell-cultured meats provide interesting marketing challenges beyond how they should be labeled.

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Oat Milk, Plant-Based Burgers, and Cauliflower Rice:
Evaluating Label-Induced Consumer Category
Confusion
Web Appendix

John McCoy (jpmccoy@wharton.upenn.edu)
The Wharton School, University of Pennsylvania

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WEB APPENDIX A: BACKGROUND

The labeling disputes and legal framework discussed below reflect a fast-moving and complex area. They are intended as summary to give a flavor of the debates and issues.

Labeling disputes

Below are examples of the kind of labeling dispute that this paper concerns.

1. **Dairy product labeling (U.S.).** Courts have rejected consumer suits claiming that ‘soymilk’ or ‘almond milk’ mislead ([Ang v. Whitewave Foods 2013](#); [Painter v. Blue Diamond Growers 2018](#)). FDA draft guidance would let plant-based milks keep the term ‘milk’ with a plant qualifier and recommends voluntary nutritional statements ([U.S. Food and Drug Administration 2023](#)). The DAIRY PRIDE Act ([U.S. Congress 2025, 2026](#)), last reintroduced in April 2026 but not passed, would prohibit dairy terms on non-dairy products and compel FDA enforcement of its standards of identity.
2. **Dairy product labeling (E.U. and U.K.).** E.U. law reserves ‘milk,’ ‘butter,’ ‘cheese,’ ‘cream,’ and ‘yoghurt’ for animal products (Regulation (EU) No. 1308/2013). The Court of Justice held that plant-based products may not use them even with clarifying terms such as ‘tofu butter’ ([TofuTown 2017](#)). The U.K. Supreme Court held Oatly’s trademark ‘Post Milk Generation’ was invalid for oat drinks, reversing lower courts ([Dairy UK v. Oatly 2026](#)).
3. **Vegan ice cream (U.S. and U.K.).** The U.S. standard of identity requires 10% milk fat (21 C.F.R. § 135.110), so plant-based products are sold as ‘non-dairy frozen dessert.’ The U.K. dropped its dairy minimum for ‘ice cream’ in 2015 under the Food Information Regulations, so a product with no dairy may be called ice cream ([Farmers Weekly 2018](#)). The FDA has proposed 2025 draft guidance on labels for plant-based alternatives (other than milks) ([U.S. Food and Drug Administration 2025](#)).

4. **Plant-based meat and cauliflower rice (U.S. states).** More than twenty states have restricted meat terms on plant-based products, and Arkansas and Louisiana also prohibit ‘rice’ for products such as cauliflower rice ([National Agricultural Law Center 2026](#); [Arkansas General Assembly 2019](#); [Louisiana State Legislature 2019](#)). Courts have diverged on the status of these laws so far. For example, Louisiana’s was upheld as reaching only intentional misrepresentation ([Turtle Island Foods v. Strain 2023](#)); and Texas’s disclaimer requirement was struck down in January 2026 ([Turtle Island Foods v. Shuford 2026](#)).
5. **Plant-based meat (E.U.).** The E.U. Parliament rejected a ‘veggie burger ban’ in 2020 ([Associated Press 2020](#)). France banned meat terms nationally, but the Court of Justice held that member states may not do so ([Protéines France 2024](#); [Conseil d’État 2025](#)). In 2025 twelve member states asked for E.U.-level protection so that imitations do not mislead consumers about their true nature ([Council of the European Union 2025](#)), and Regulation (EU) 2026/1739 now reserves ‘meat’ and a list of thirty-one terms such as ‘steak’ and ‘bacon’ for animal-based products ([European Union 2026](#)). The terms ‘burger’ and ‘sausage’ are not included in this list, and a committee will vote in December 2026 on their inclusion ([Food Ingredients First 2026](#)).
6. **Vegan mayonnaise (U.S.).** The standard of identity for mayonnaise requires egg yolk. Unilever sued the maker of egg-free ‘Just Mayo’ for misleading consumers although the suit was later withdrawn. The FDA sent a warning letter and the FDA accepted the name after label changes ([Congressional Research Service 2015](#); [FoodNavigator-USA 2015](#)). The E.U. has no legal name for mayonnaise, but some member states (e.g., the Netherlands) reserve it nationally ([Netherlands 1998](#)).
7. **Cell-cultivated meat and dairy.** The U.S. Department of Agriculture approved the name ‘cell-cultivated chicken’ for two producers but has not set a general name for the category after a 2021 inquiry aimed at doing so ([Congressional Research Service 2023](#);

U.S. Department of Agriculture, Food Safety and Inspection Service 2021). Several states require ‘cell-cultured’ or ‘lab-grown’ on the label (National Agricultural Law Center 2026). What name to use is contested, with suggestions from different parties including ‘cultivated,’ ‘lab-grown,’ and ‘cultured’ (Garland and Dutkiewicz 2021; Hallman, Hallman, and Hallman 2023). In the E.U., Regulation 2026/1739 prohibits the labeling of cell-cultured products with ‘meat’ or with a species name such as ‘chicken’ (European Union 2026). Dairy producers have asked the FDA to bar the use of ‘milk’ for milk protein made by fermentation and sold as ‘animal-free dairy milk’ (AgFunderNews 2023).

8. **Other jurisdictions.** South Africa ordered plant-based meat products to drop the labels ‘nuggets,’ ‘sausage,’ and ‘biltong’ in 2022 and a seizure of products was ordered, although the High Court set the decision aside (South Gauteng High Court, Johannesburg 2023; Consumer Goods Council of South Africa 2024). India’s regulator ordered plant-based products delisted for using dairy terms in 2021 although this was stayed by the Delhi High Court (FoodNavigator-Asia 2021). South Korea prohibits ‘beef,’ ‘pork,’ ‘milk,’ and ‘egg’ in non-animal-based products (Keller and Heckman 2023); Turkey banned ‘vegan cheese’ in 2022 (FoodNavigator 2022).

Legal framework

This subsection provides further details on the role of consumer confusion in the policy and legal debates over how food products may be labeled. For overviews see Negowetti (2020), Miller (2022), and Congressional Research Service (2018) on the U.S., and Pisanello and Ferraris (2018) and Carreño and Dolle (2018) on the E.U.

1. Category confusion is a general principle of consumer protection law in the U.S. The Federal Food, Drug, and Cosmetic Act, the statute that gives the FDA authority over food labels, defines a food as “misbranded” if “its labeling is false or misleading in any particular” (United States Code 2023). The Federal Trade Commission, which

regulates advertising, uses a similar test: a claim is deceptive if it is “likely to mislead the consumer acting reasonably in the circumstances” and matters to the consumer’s decision ([Federal Trade Commission 1983](#)). State protection laws, such as California’s Unfair Competition Law, apply the same reasonable-consumer test. Consumer suits under these statutes against labels like ‘almond milk’ have been decided on the grounds of whether evidence was shown of consumer confusion ([Painter v. Blue Diamond Growers 2018](#)).

2. Similar regulations apply in the E.U. and U.K. The relevant E.U. rule is the Food Information to Consumers Regulation (Regulation (EU) No. 1169/2011): food information “shall not be misleading, particularly as to the characteristics of the food and, in particular, as to its nature, identity, properties, composition” (Regulation (EU) No. 1169/2011, Art. 7(1)(a)). Confusion is again judged from the perspective of the “average consumer.” The U.K. retained Regulation 1169/2011 after leaving the E.U.
3. Apart from prohibitions against misleading labels, some food categories are defined in law. In the U.S., the FDA sets standards of identity fixing the composition of foods such as milk, mayonnaise, and ice cream ([United States Code 2023](#); [Code of Federal Regulations 2024](#)). A food that is labeled as a standardized food, but that does not meet the standard is misbranded. More than twenty states also restrict how particular foods may be labeled, for example with laws that prohibit meat terms on plant-based products ([National Agricultural Law Center 2026](#)). E.U. law reserves ‘milk,’ ‘cream,’ ‘butter,’ ‘cheese,’ and ‘yoghurt’ for products of animal origin with a short list of traditional exceptions ([European Union 2013](#)). Regulation (EU) 2026/1739 adds ‘meat’ and thirty-one meat terms from 2029 ([European Union 2026](#)). The U.K. kept the dairy reservation in its own law after leaving the E.U. ([Dairy UK v. Oatly 2026](#)).
4. Consumer confusion is important even when a category is defined in law (U.S. con-

text). In the U.S., the First Amendment protects non-misleading commercial speech about lawful activity, and restrictions on such speech must directly advance a substantial governmental interest and be no more extensive than necessary to serve that interest ([Central Hudson 1980](#)). So, for example, a state must show that a banned label misleads and that a ban is no broader than needed. California lost its challenge to ‘vegan butter’ having offered no evidence of confusion ([Miyoko’s Kitchen v. Ross 2021](#)); Arkansas’s law was blocked because the state did not provide evidence of broad marketplace confusion ([Turtle Island Foods v. Soman 2022](#)); Texas’s was struck down partly on survey evidence that consumers identify plant-based products correctly ([Turtle Island Foods v. Shuford 2026](#)); and a consumer suit claiming that ‘almond milk’ misleads was dismissed because no reasonable consumer would be misled ([Painter v. Blue Diamond Growers 2018](#)). State laws banning labels have survived when read to reach only labels that actually mislead ([Turtle Island Foods v. Strain 2023](#)). The FDA has also taken into account potential consumer confusion when deciding whether to allow products that do not fall within a standard of identity to use the corresponding label, and courts have held that a standard of identity does not by itself make a non-conforming label misleading ([Ocheesee Creamery v. Putnam 2017](#)). The FDA’s 2023 draft guidance ([U.S. Food and Drug Administration 2023](#)) would let plant-based milks use ‘milk’ because the agency concluded that consumers understand that these products do not contain milk. The guidance recommends voluntary nutritional statements. More recent FDA draft guidance has emphasized consumer understanding over rigid definitions ([U.S. Food and Drug Administration 2025](#)). Proponents of limiting the use of labels argue that they will otherwise lead to confusion, for example the DAIRY PRIDE Act’s sponsors call dairy terms on plant-based products “misleading to consumers” about nutritional value ([Office of Sen. Peter Welch 2023](#)).

5. Consumer confusion is important even when a category is defined in law (E.U. and U.K. context). In the E.U. and U.K., reserved names apply whether or not consumers

are misled so confusion does not decide individual cases (European Union 2013, 2026; Dairy UK v. Oatly 2026). However, the reserved names themselves are justified, in part, by the likelihood of confusion (TofuTown 2017) and proponents of new reserved names have argued on the basis of preventing consumer confusion (Council of the European Union 2025).

WEB APPENDIX B: STUDIES 1–4: ATTRIBUTE AND COMPOSITION INFERENCE IN U.S. AND U.K. NATIONALLY REPRESENTATIVE SAMPLES

Methods

For the attribute inference studies, two disguised attention checks were embedded among the product questions and took the same form as those questions. The first appeared among the nutrition questions for the plant-based burgers (plant-based patties in the control condition): “How much vitamin B would you expect to be in one of these plant-based burgers? For reference, although a cup of Greek yogurt has some amount and an avocado has a different amount, please simply write 5 in the box below.” Any answer other than 5 counted as a failure. The second appeared among the questions for the vegan mayo (creamy vegan spread in the control condition): “How much fiber is not the question. Instead, please write the brand name of this vegan mayo in the box below.” The brand name, Savora, appeared on the pictured packaging. Because the ‘r’ was not clearly legible in the name, participants with mistaken letters at this position were not excluded. Table W1 gives the full text of the usage questions.

For the composition inference studies, two disguised attention checks were embedded among the product questions and took the same form as those questions. The first appeared among the composition questions for the plant-based burgers (plant-based patties in the control condition): “What percentage of these plant-based burgers is made up of salt is not the question, instead please write 5 in the box below?” Any answer other than 5 counted as

Product	Figure label	Question
Almond milk	Works for baking	Would you expect this almond milk to work for baking (e.g., muffins)?
Almond milk	Will curdle	Would you expect this almond milk to curdle (e.g., for making paneer or yogurt)?
Almond milk	Reduces for sauces	Would you expect this almond milk to reduce (e.g. for making a béchamel or Alfredo sauce)?
Cauliflower rice	Suitable for boiling	Treatment: How well do you expect boiling this cauliflower rice in water would work as a preparation? Control: How suitable do you expect boiling this finely chopped cauliflower in water would be as a preparation?
Plant-based burgers	Chars on the grill	How well do you think that one of these plant-based burgers would char on the grill?
Vegan mayo	Works as binding agent	How well do you think that this vegan mayo would work as a binding agent in tuna salad or egg salad?

Table W1: Studies 1 and 2: Full text of the usage questions, shown with the treatment-condition product name. In the control condition the product name was replaced by the control name (almond drink, plant-based patties, creamy vegan spread). The boiling question differed in wording between conditions, so both versions are shown.

a failure. The second attention check was the Savora brand question.

Study	Failed attention check						Excluded	Final
	Recruited	Write 5	Savora	Either	Age-year	Looked up		
1 (attributes, U.S.)	1002	198	183	285	15	7	296	706
2 (attributes, U.K.)	1000	124	111	187	16	4	200	800
3 (composition, U.S.)	799	75	13	85	15	3	98	701
4 (composition, U.K.)	798	67	12	76	20	4	95	703

Table W2: Exclusions for Studies 1–4: number of participants who failed each attention check, who failed either attention check, who gave inconsistent answers to their age and year of birth, and who reported looking up information.

As the main text describes, to evaluate the relationship between a participant’s estimates and whether they had purchased a product previously or intended to purchase a product, we estimated a regression with each of these as moderators. Specifically, $Y_{ipa} = \alpha_{pa} + \beta_{pa} T_i + \gamma_{pa} M_{ip} + \delta_{pa} T_i M_{ip} + \varepsilon_{ipa}$ where M_{ip} is 1 if participant i reported they had previously purchased product p (first model) or intended to purchase it (second model).

Product	Property	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
Almond milk	Baking	0.14	0.14	−0.14	0.42	0.99	.323	.793
Almond milk	Calcium	−3.82	8.14	−19.77	12.13	−0.47	.639	.793
Almond milk	Calories	−1.72	4.73	−10.99	7.55	−0.36	.716	.793
Almond milk	Carbs	−0.65	0.57	−1.76	0.46	−1.16	.248	.793
Almond milk	Curdle	−0.10	0.15	−0.39	0.19	−0.67	.501	.793
Almond milk	Fat	−0.22	0.54	−1.28	0.85	−0.40	.691	.793
Almond milk	Protein	0.18	0.68	−1.16	1.51	0.26	.793	.793
Almond milk	Reduce	−0.15	0.15	−0.45	0.14	−1.03	.304	.793
Cauliflower rice	Boiling	0.46	0.14	0.20	0.73	3.39	.001	.002
Cauliflower rice	Calories	15.99	5.50	5.20	26.77	2.91	.004	.006
Cauliflower rice	Carbs	2.79	0.75	1.31	4.27	3.69	<.001	.001
Cauliflower rice	Fat	0.66	0.49	−0.29	1.62	1.36	.174	.174
Cauliflower rice	Protein	0.94	0.59	−0.22	2.11	1.59	.111	.139
Vegan ice cream	Calories	4.66	6.98	−9.02	18.33	0.67	.504	.688
Vegan ice cream	Carbs	1.50	0.92	−0.30	3.30	1.63	.103	.410
Vegan ice cream	Fat	0.07	0.84	−1.58	1.72	0.08	.936	.936
Vegan ice cream	Protein	−0.36	0.55	−1.45	0.73	−0.65	.516	.688
Plant-based burgers	Calories	10.18	7.61	−4.74	25.10	1.34	.181	.453
Plant-based burgers	Carbs	2.32	1.30	−0.23	4.86	1.79	.074	.371
Plant-based burgers	Char	−0.11	0.12	−0.35	0.13	−0.93	.355	.591
Plant-based burgers	Fat	−0.60	0.86	−2.29	1.10	−0.69	.490	.613
Plant-based burgers	Protein	0.32	0.90	−1.44	2.08	0.36	.719	.719
Vegan mayo	Binding	0.08	0.11	−0.14	0.29	0.69	.489	.611
Vegan mayo	Calories	0.20	3.40	−6.46	6.87	0.06	.952	.952
Vegan mayo	Carbs	−0.50	0.47	−1.41	0.42	−1.07	.286	.476
Vegan mayo	Fat	0.66	0.43	−0.19	1.50	1.52	.129	.322
Vegan mayo	Protein	−0.32	0.20	−0.71	0.07	−1.62	.105	.322

Table W3: Study 1: Treatment effects with adjusted and unadjusted confidence intervals and p-values by product and attribute. Multiple comparisons are done within each product.

Product	Property	U	Unadjusted p -value	Adjusted p -value
Almond milk	Baking	57815.0	.296	.332
Almond milk	Curdle	40812.5	.330	.332
Almond milk	Reduce	43793.0	.332	.332
Cauliflower rice	Boiling	71506.5	.001	.001
Plant-based burgers	Char	60729.0	.555	.555
Vegan mayo	Binding	65175.0	.278	.278

Table W4: Study 1: Mann–Whitney U tests for the Likert scale properties.

Study 1 Attribute inference (U.S. Sample): Results

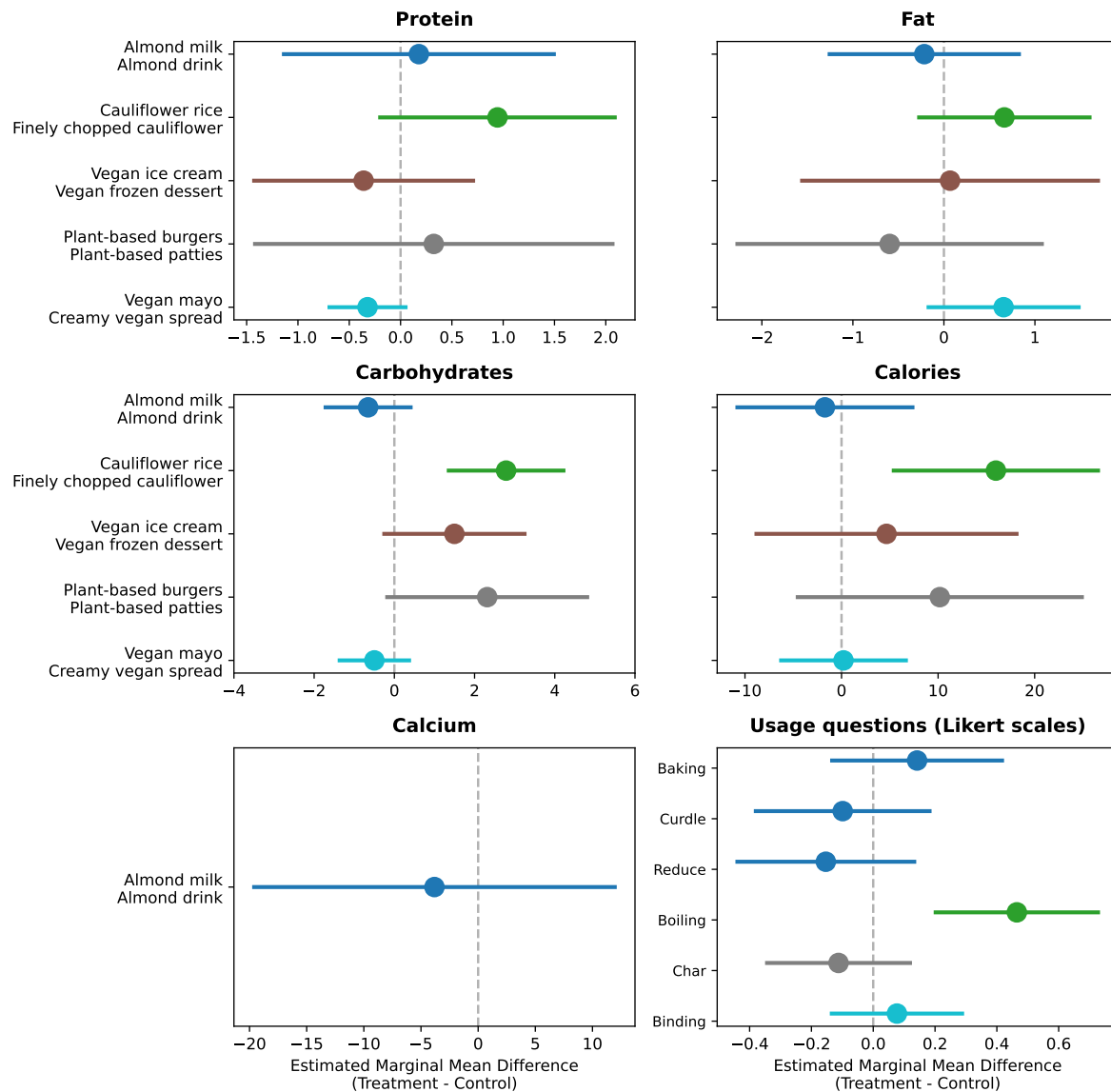


Figure W1: Treatment effects of labeling on nutritional estimates and judgments about usage for Study 1 across all participants. 10

Product	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Control</i>							
Almond drink	−112.02	3.45	−118.78	−105.25	−32.46	<.001	<.001
Finely chopped cauliflower	−95.71	3.72	−102.99	−88.42	−25.75	<.001	<.001
Vegan frozen dessert	−179.31	4.91	−188.94	−169.67	−36.49	<.001	<.001
Plant-based patties	−203.12	5.19	−213.30	−192.94	−39.11	<.001	<.001
Creamy vegan spread	−43.97	2.47	−48.81	−39.13	−17.80	<.001	<.001
<i>Treatment</i>							
Almond milk	−110.95	3.13	−117.08	−104.82	−35.47	<.001	<.001
Cauliflower rice	−108.91	3.77	−116.30	−101.51	−28.87	<.001	<.001
Vegan ice cream	−182.47	4.74	−191.76	−173.17	−38.48	<.001	<.001
Plant-based burgers	−210.98	5.38	−221.53	−200.44	−39.23	<.001	<.001
Vegan mayo	−44.67	2.12	−48.82	−40.52	−21.10	<.001	<.001

Table W5: Study 1: Positive controls that involved comparisons between carbohydrates and calories within each product. We corrected for the five multiple comparisons within each condition.

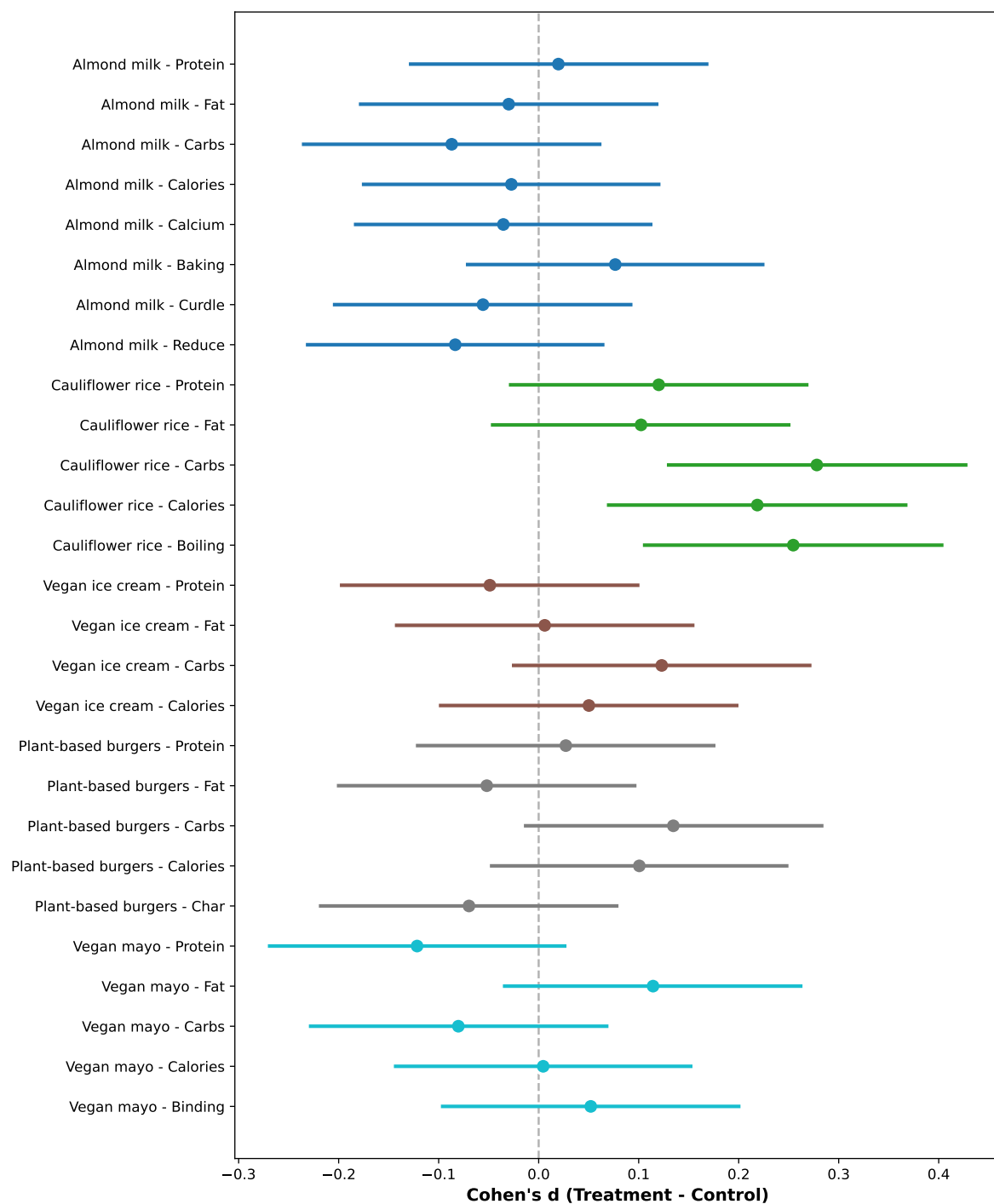


Figure W2: Study 1: Cohen's d for the various products and properties across all respondents.

	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Control</i>							
Almond drink vs. Vegan frozen dessert							
Calories	−72.18	5.32	−82.60	−61.76	−13.58	<.001	<.001
Carbs	−4.89	0.57	−6.01	−3.78	−8.58	<.001	<.001
Fat	−5.32	0.60	−6.49	−4.14	−8.88	<.001	<.001
Protein	2.36	0.45	1.48	3.25	5.24	<.001	<.001
Finely chopped cauliflower vs. Vegan frozen dessert							
Calories	−88.52	5.44	−99.18	−77.87	−16.29	<.001	<.001
Carbs	−4.92	0.62	−6.13	−3.71	−7.97	<.001	<.001
Fat	−8.80	0.61	−10.00	−7.60	−14.35	<.001	<.001
Protein	−2.13	0.43	−2.98	−1.28	−4.93	<.001	<.001
<i>Treatment</i>							
Almond milk vs. Vegan ice cream							
Calories	−78.56	5.30	−88.94	−68.18	−14.83	<.001	<.001
Carbs	−7.05	0.67	−8.36	−5.73	−10.48	<.001	<.001
Fat	−5.60	0.61	−6.79	−4.41	−9.21	<.001	<.001
Protein	2.90	0.50	1.93	3.88	5.84	<.001	<.001
Cauliflower rice vs. Vegan ice cream							
Calories	−77.19	5.71	−88.38	−66.01	−13.53	<.001	<.001
Carbs	−3.64	0.79	−5.19	−2.08	−4.58	<.001	<.001
Fat	−8.20	0.59	−9.35	−7.05	−14.02	<.001	<.001
Protein	−0.82	0.46	−1.73	0.08	−1.79	.074	.074

Table W6: Study 1: Positive controls that involved comparisons across products. We corrected for the four comparisons within each product comparison and each condition.

Product	Measure	Control %	Treatment %	Unadj. <i>p</i>	Adj. <i>p</i>
Milk alternatives	Previous purchase	78	77	1.000	1.000
	Intent to purchase	72	71	.822	1.000
Plant-based meats	Previous purchase	60	56	.303	.605
	Intent to purchase	53	47	.133	.442
Vegan cold treats	Previous purchase	36	28	.028	.208
	Intent to purchase	44	37	.042	.208
Vegan spreads	Previous purchase	27	27	.975	1.000
	Intent to purchase	38	36	.596	.994
Vegetable based rice alternatives	Previous purchase	46	51	.178	.445
	Intent to purchase	53	53	1.000	1.000

Table W7: Study 1: The percentages of participants indicating that they had previously purchased, or intended to purchase, each product separated by condition.

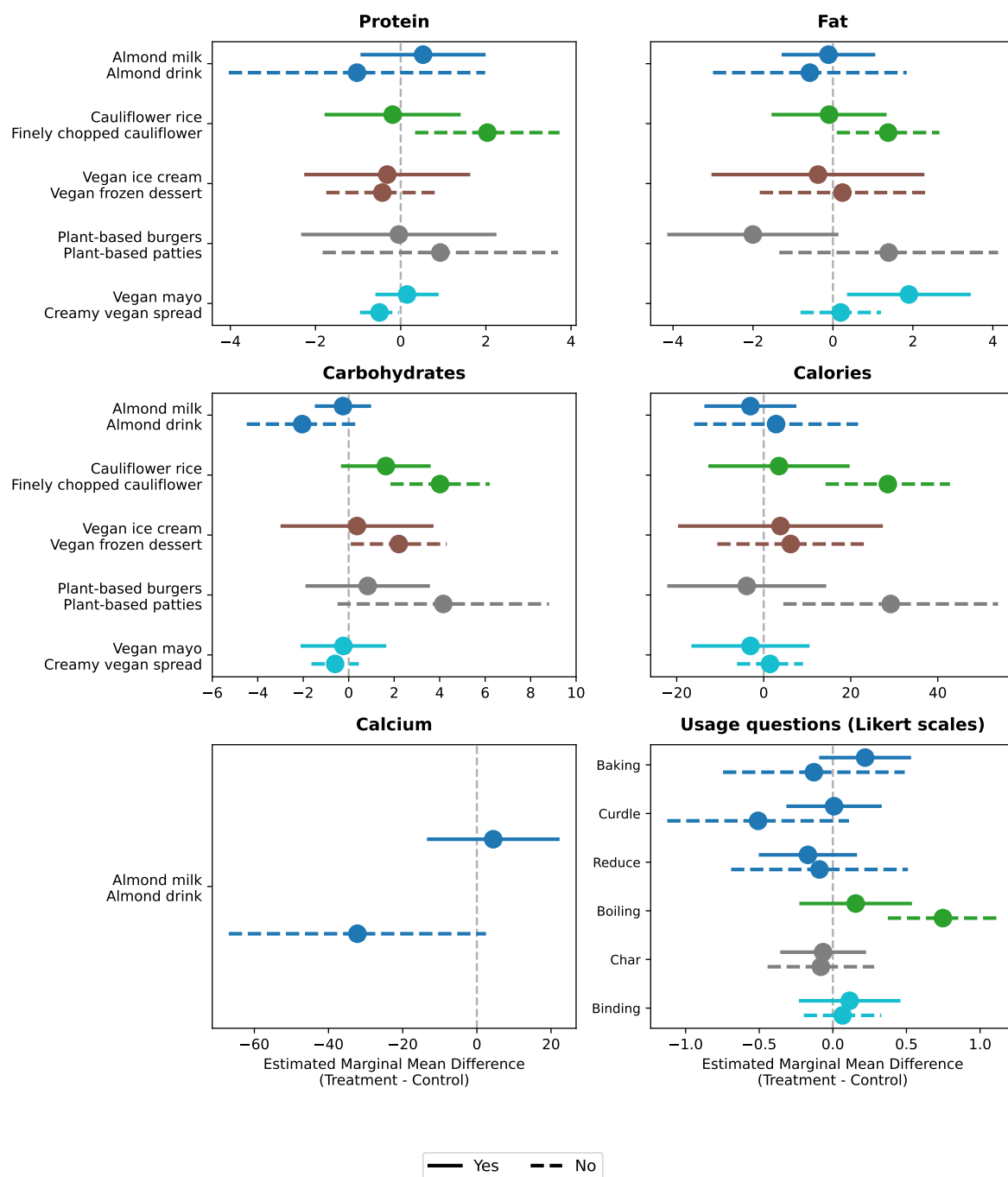


Figure W3: Study 1: Treatment effects with previous purchases as a moderator.

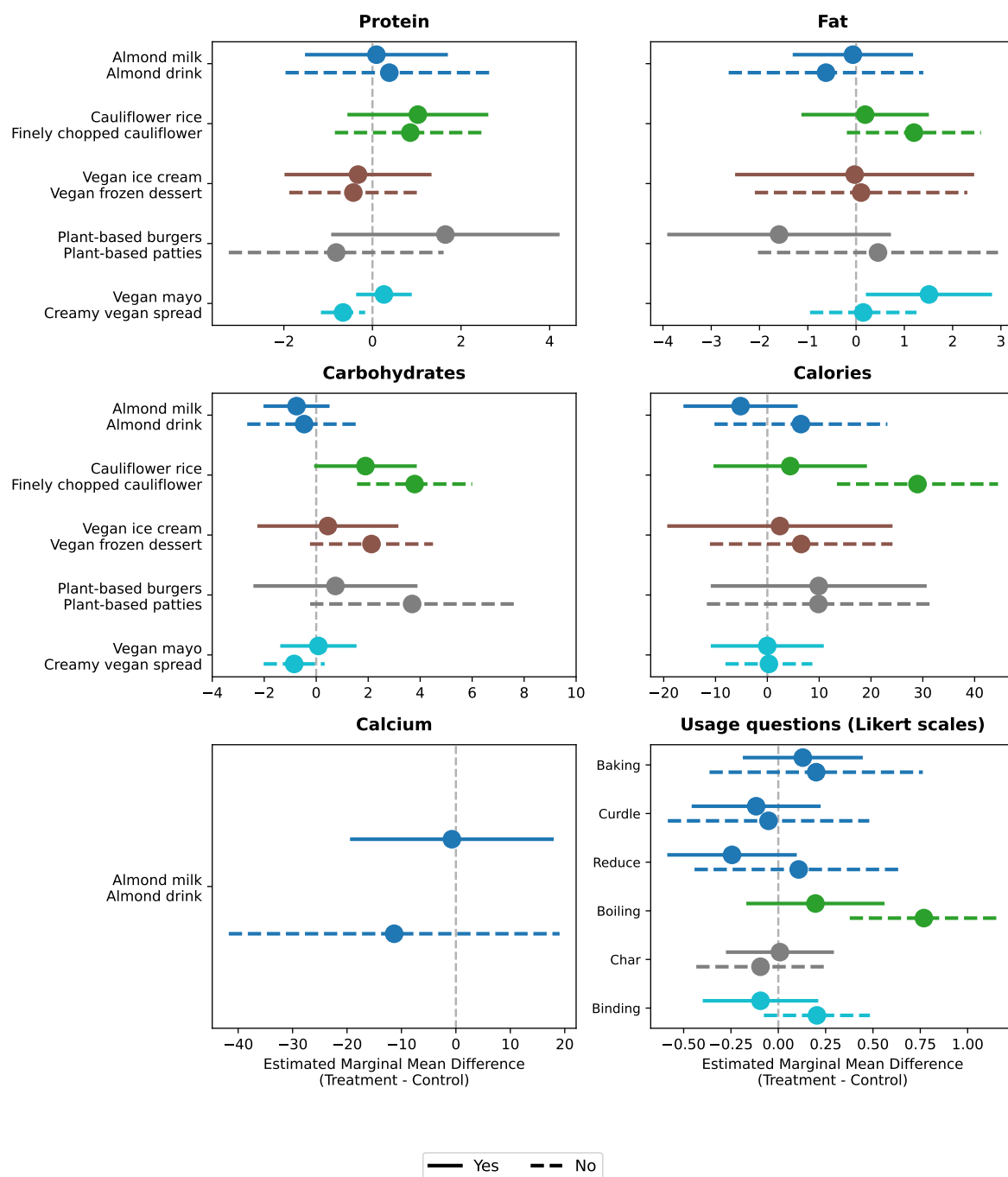


Figure W4: Study 1: Treatment effects with intent to purchase as a moderator.

Study 2 Attribute inference (U.K. Sample): Results

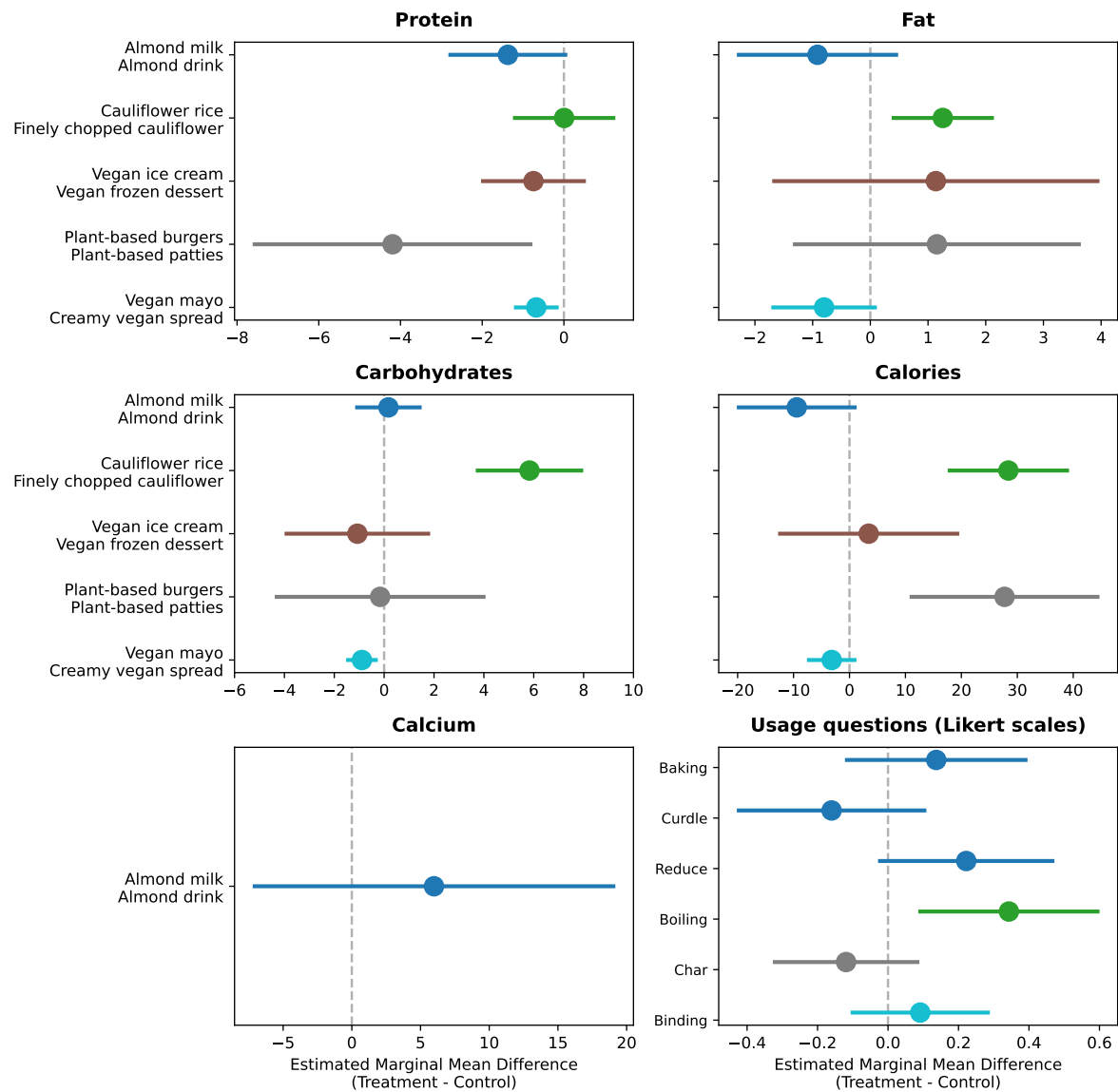


Figure W5: Study 2: Treatment effects of labeling on nutritional estimates and judgments about usage across all participants in the U.K. sample.

Product	Property	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
Almond milk	Baking	0.14	0.13	−0.12	0.40	1.04	.300	.401
Almond milk	Calcium	5.98	6.73	−7.22	19.18	0.89	.374	.428
Almond milk	Calories	−9.43	5.46	−20.14	1.28	−1.73	.084	.225
Almond milk	Carbs	0.17	0.68	−1.16	1.50	0.25	.802	.802
Almond milk	Curdle	−0.16	0.14	−0.43	0.11	−1.17	.243	.389
Almond milk	Fat	−0.92	0.71	−2.31	0.48	−1.28	.199	.389
Almond milk	Protein	−1.37	0.74	−2.83	0.08	−1.85	.065	.225
Almond milk	Reduce	0.22	0.13	−0.03	0.47	1.74	.082	.225
Cauliflower rice	Boiling	0.34	0.13	0.09	0.60	2.61	.009	.011
Cauliflower rice	Calories	28.41	5.53	17.56	39.25	5.13	<.001	<.001
Cauliflower rice	Carbs	5.83	1.10	3.67	7.99	5.30	<.001	<.001
Cauliflower rice	Fat	1.26	0.45	0.37	2.14	2.78	.005	.009
Cauliflower rice	Protein	0.01	0.64	−1.25	1.26	0.01	.993	.993
Vegan ice cream	Calories	3.43	8.26	−12.76	19.63	0.42	.678	.678
Vegan ice cream	Carbs	−1.07	1.49	−3.99	1.85	−0.72	.471	.628
Vegan ice cream	Fat	1.14	1.45	−1.70	3.97	0.78	.433	.628
Vegan ice cream	Protein	−0.75	0.65	−2.03	0.54	−1.14	.255	.628
Plant-based burgers	Calories	27.72	8.66	10.75	44.70	3.20	.001	.007
Plant-based burgers	Carbs	−0.16	2.16	−4.39	4.07	−0.07	.941	.941
Plant-based burgers	Char	−0.12	0.11	−0.33	0.09	−1.12	.262	.437
Plant-based burgers	Fat	1.15	1.27	−1.34	3.65	0.91	.365	.456
Plant-based burgers	Protein	−4.19	1.75	−7.62	−0.77	−2.40	.016	.041
Vegan mayo	Binding	0.09	0.10	−0.11	0.29	0.91	.364	.364
Vegan mayo	Calories	−3.18	2.26	−7.60	1.25	−1.41	.159	.199
Vegan mayo	Carbs	−0.89	0.32	−1.52	−0.26	−2.75	.006	.030
Vegan mayo	Fat	−0.80	0.47	−1.72	0.11	−1.72	.086	.143
Vegan mayo	Protein	−0.68	0.28	−1.22	−0.13	−2.42	.015	.039

Table W8: Study 2: Treatment effects with adjusted and unadjusted confidence intervals and p-values by product and attribute.

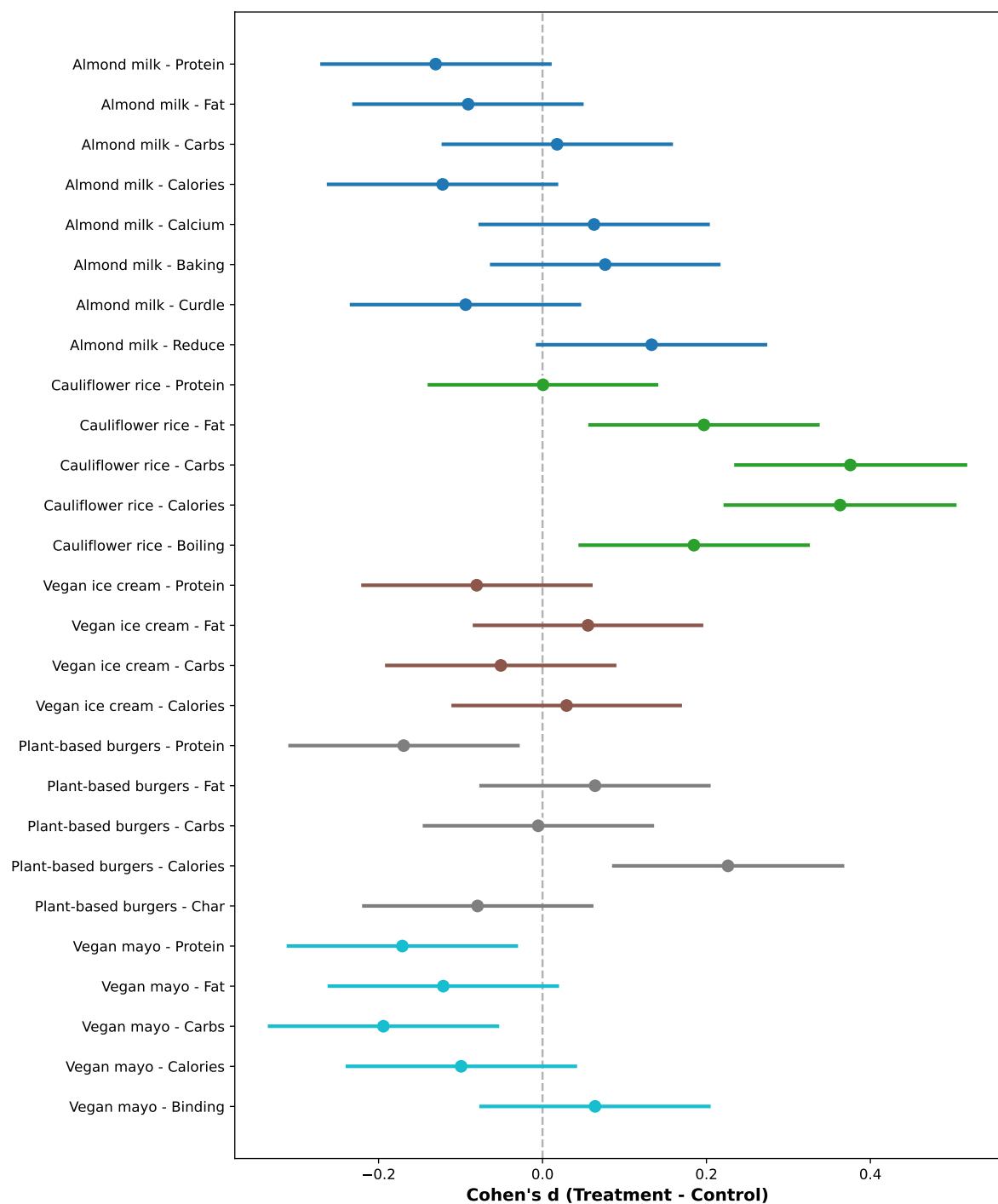


Figure W6: Study 2: Cohen's d for the various products and properties across all respondents.

Product	Property	U	Unadjusted p -value	Adjusted p -value
Almond milk	Baking	69508.5	.406	.406
Almond milk	Curdle	46280.0	.356	.406
Almond milk	Reduce	62478.0	.100	.301
Cauliflower rice	Boiling	87881.5	.014	.014
Plant-based burgers	Char	77254.0	.390	.390
Vegan mayo	Binding	82560.0	.421	.421

Table W9: Study 2: Mann–Whitney U tests for the Likert scale properties.

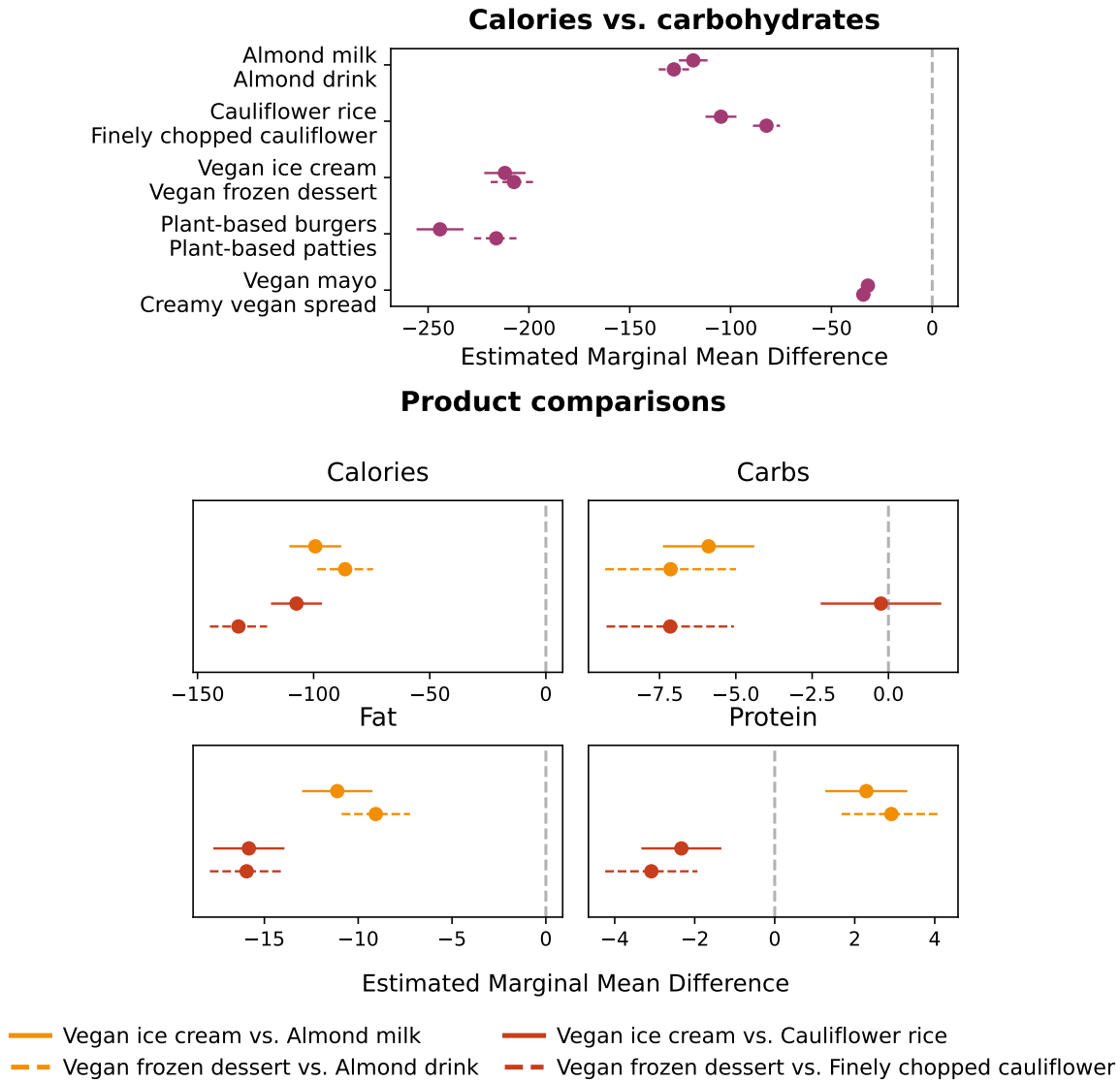


Figure W7: Study 2: Positive controls across all participants. In each comparison the top (solid) line shows the treatment group and the bottom (dashed) line shows the control group.

Product	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Control</i>							
Almond drink	−128.12	3.85	−135.66	−120.57	−33.29	<.001	<.001
Finely chopped cauliflower	−82.20	3.42	−88.91	−75.49	−24.01	<.001	<.001
Vegan frozen dessert	−207.40	5.89	−218.95	−195.85	−35.20	<.001	<.001
Plant-based patties	−216.21	5.59	−227.16	−205.26	−38.70	<.001	<.001
Creamy vegan spread	−34.19	1.80	−37.71	−30.67	−19.02	<.001	<.001
<i>Treatment</i>							
Almond milk	−118.52	3.63	−125.63	−111.41	−32.68	<.001	<.001
Cauliflower rice	−104.77	3.92	−112.46	−97.09	−26.72	<.001	<.001
Vegan ice cream	−211.91	5.23	−222.15	−201.67	−40.56	<.001	<.001
Plant-based burgers	−244.10	5.93	−255.73	−232.46	−41.14	<.001	<.001
Vegan mayo	−31.90	1.17	−34.20	−29.60	−27.22	<.001	<.001

Table W10: Study 2: Positive controls that involved comparisons between carbohydrates and calories within each product. We corrected for the five multiple comparisons within each condition.

	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Control</i>							
Almond drink vs. Vegan frozen dessert							
Calories	−86.42	6.14	−98.46	−74.38	−14.07	<.001	<.001
Carbs	−7.14	1.09	−9.28	−4.99	−6.53	<.001	<.001
Fat	−9.06	0.93	−10.88	−7.24	−9.75	<.001	<.001
Protein	2.92	0.64	1.67	4.16	4.59	<.001	<.001
Finely chopped cauliflower vs. Vegan frozen dessert							
Calories	−132.36	6.29	−144.68	−120.03	−21.05	<.001	<.001
Carbs	−7.15	1.07	−9.24	−5.06	−6.71	<.001	<.001
Fat	−15.94	1.00	−17.90	−13.99	−15.96	<.001	<.001
Protein	−3.08	0.59	−4.24	−1.93	−5.25	<.001	<.001
<i>Treatment</i>							
Almond milk vs. Vegan ice cream							
Calories	−99.28	5.70	−110.45	−88.12	−17.43	<.001	<.001
Carbs	−5.89	0.76	−7.39	−4.39	−7.71	<.001	<.001
Fat	−11.11	0.96	−12.99	−9.24	−11.62	<.001	<.001
Protein	2.29	0.52	1.27	3.32	4.38	<.001	<.001
Cauliflower rice vs. Vegan ice cream							
Calories	−107.38	5.60	−118.36	−96.40	−19.17	<.001	<.001
Carbs	−0.25	1.01	−2.22	1.73	−0.24	.808	.808
Fat	−15.82	0.97	−17.72	−13.93	−16.38	<.001	<.001
Protein	−2.33	0.51	−3.33	−1.33	−4.58	<.001	<.001

Table W11: Study 2: Positive controls that involved comparisons across products. We corrected for the four comparisons within each product comparison and each condition.

Product	Measure	Control %	Treatment %	Unadj. <i>p</i>	Adj. <i>p</i>
Milk alternatives	Previous purchase	67	69	.721	.955
	Intent to purchase	62	63	.798	.955
Plant-based meats	Previous purchase	62	65	.358	.808
	Intent to purchase	56	60	.272	.808
Vegan cold treats	Previous purchase	32	35	.439	.808
	Intent to purchase	40	41	.964	.964
Vegan spreads	Previous purchase	27	31	.236	.808
	Intent to purchase	33	37	.286	.808
Vegetable based rice alternatives	Previous purchase	34	35	.859	.955
	Intent to purchase	45	48	.485	.808

Table W12: Study 2: The percentages of participants indicating that they had previously purchased, or intended to purchase, each product separated by condition.

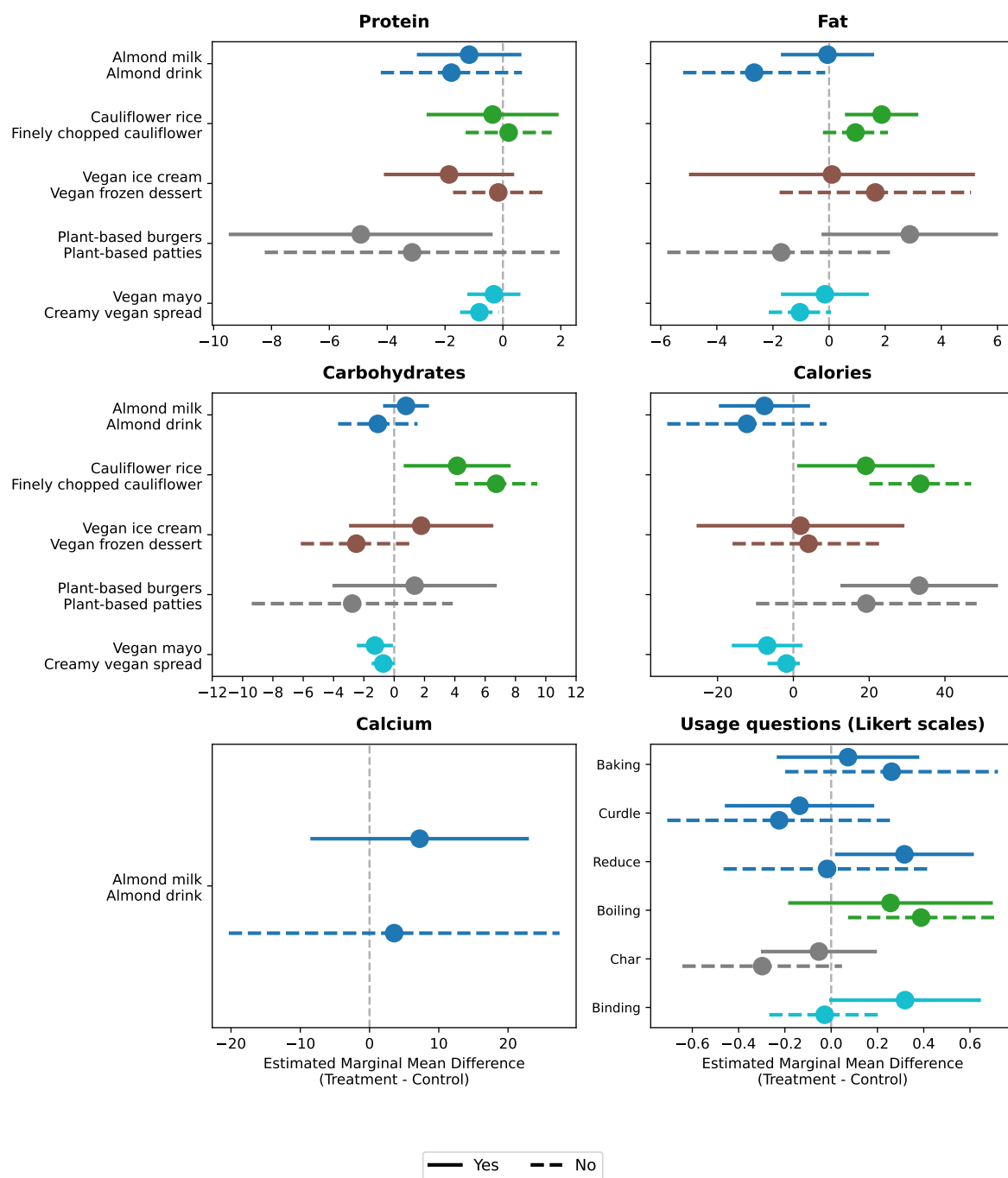


Figure W8: Study 2: Treatment effects with previous purchases as a moderator.

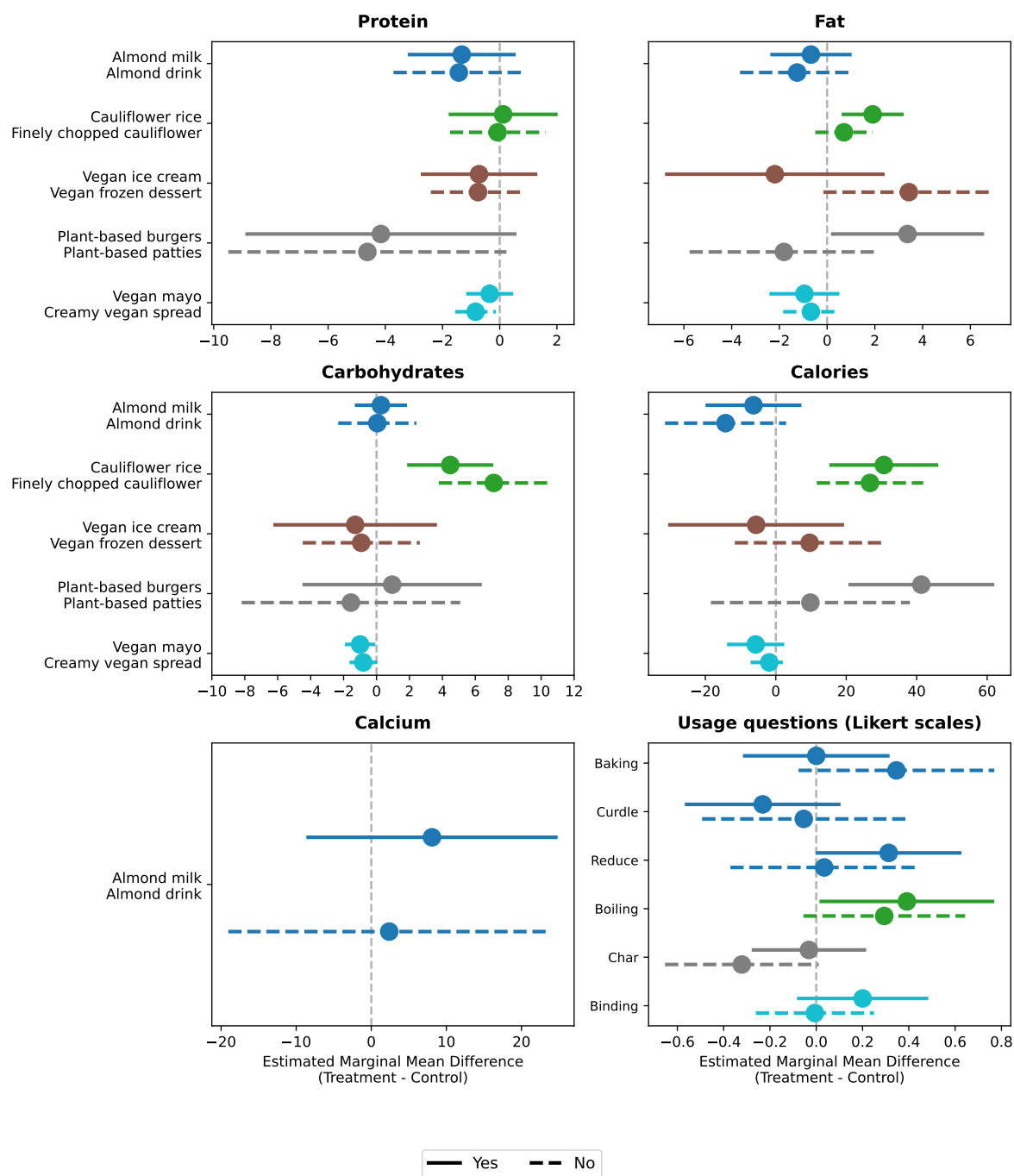


Figure W9: Study 2: Treatment effects with intent to purchase as a moderator.

Study 3 Composition inference (U.S. Sample): Results

Ingredient	Estimate	SE	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink</i>							
Almonds	3.54	2.54	−1.44	8.52	1.39	.164	.234
Cow's milk	−3.27	1.19	−5.60	−0.95	−2.76	.006	.019
<i>Cauliflower rice vs. Finely chopped</i>							
Any grains	9.09	1.90	5.36	12.81	4.78	<.001	<.001
Any vegetable	−7.37	2.19	−11.65	−3.08	−3.37	<.001	.004
<i>Vegan ice cream vs. frozen dessert</i>							
Cow's milk	−3.79	1.55	−6.83	−0.75	−2.44	.015	.036
Eggs	−1.35	0.83	−2.98	0.27	−1.63	.103	.172
<i>Plant-based burgers vs. patties</i>							
Bread crumbs	−1.36	1.55	−4.40	1.69	−0.87	.382	.425
Animal meat	−1.90	0.82	−3.51	−0.29	−2.31	.021	.042
<i>Vegan mayo vs. Creamy spread</i>							
Eggs	−1.69	1.49	−4.62	1.24	−1.13	.258	.322
Oil	1.40	2.17	−2.85	5.65	0.65	.518	.518

Table W13: Study 3: Treatment effects on composition estimates (in percentage points) by product and ingredient. The z and p -values are from Wald tests. Multiple-comparison correction is over all ten comparisons.

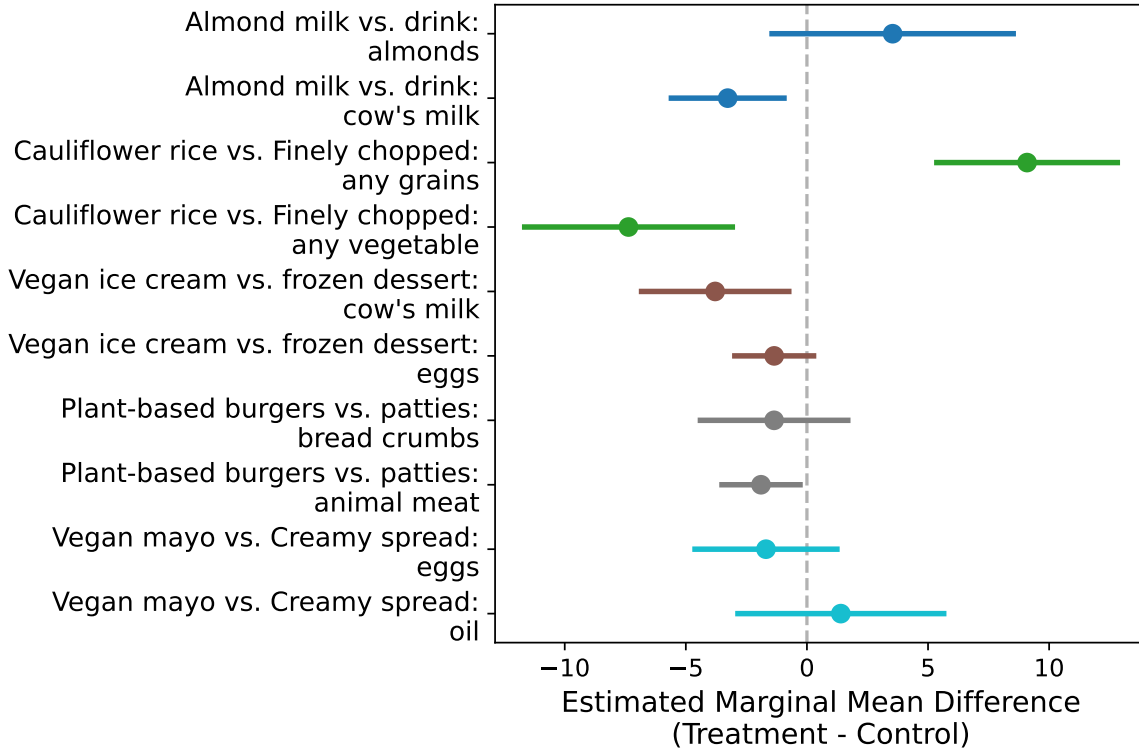


Figure W10: Treatment effects of labeling on composition estimates for Study 3 across all participants.

Product	Ingredient	Treatment %	Control %	χ^2	Unadj. <i>p</i>	Adj. <i>p</i>
Almond milk	Cow's milk	10.8	18.2	7.24	.007	.043
Plant-based burgers	Animal meat	4.9	10.1	5.91	.015	.045
Cauliflower rice	Grain	52.6	49.0	0.77	.381	.457
Vegan mayo	Eggs	27.9	35.9	4.73	.030	.059
Vegan ice cream	Cow's milk	15.7	21.9	3.94	.047	.071
Vegan ice cream	Eggs	23.0	25.2	0.37	.544	.544

Table W14: Study 3: Percentage of respondents estimating that a product contained more than 1% of an ingredient that is normatively absent, by condition, with chi-square tests comparing conditions.

We provide more details here about the positive controls. First, for each product we contrasted participants' estimates for its two composition ingredients, separately by condition, correcting for the five comparisons within each condition. For example, we compared estimates of the percentage of almond milk made up of almonds versus the percentage made

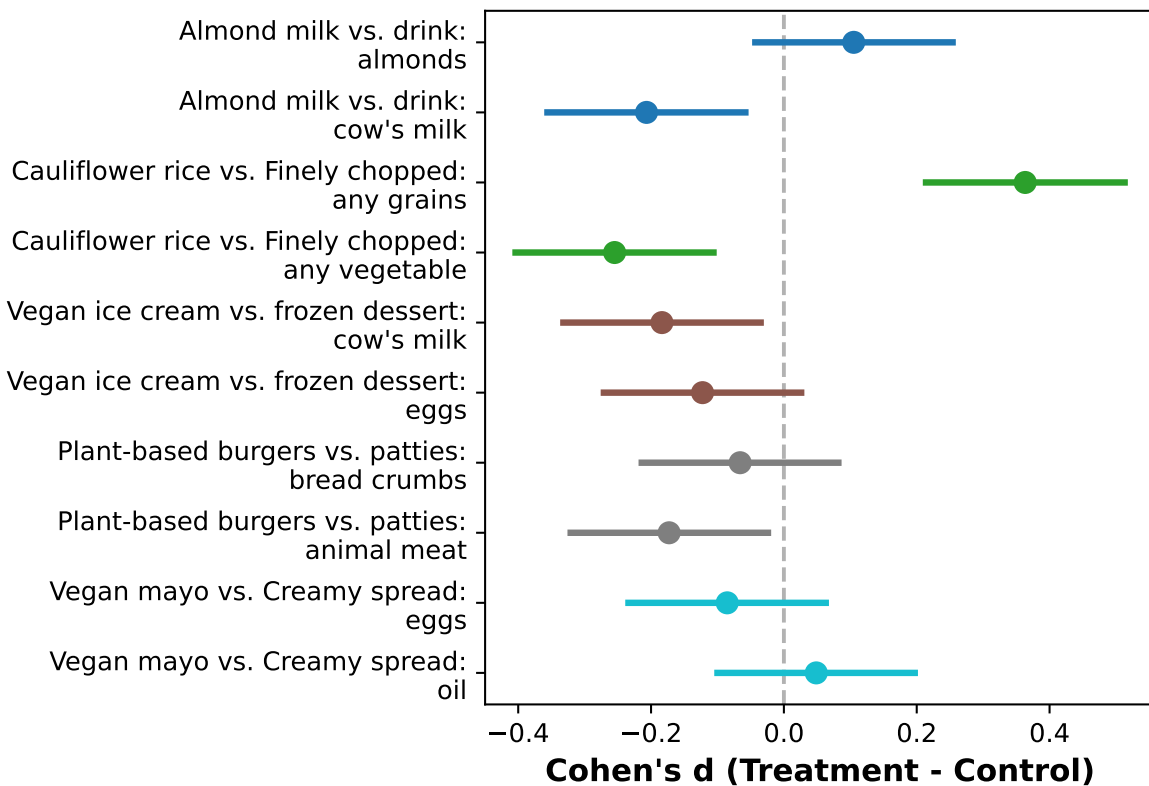


Figure W11: Study 3: Cohen's d for the various products and ingredients across all respondents.

Measure	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Almond milk vs. drink</i>							
Price	−0.04	0.15	−0.35	0.26	−0.27	.787	.787
Environment	0.18	0.10	−0.01	0.36	1.85	.064	.110
<i>Cauliflower rice vs. Finely chopped</i>							
Price	−0.34	0.19	−0.72	0.04	−1.75	.080	.338
Environment	0.03	0.08	−0.12	0.19	0.41	.682	.682
<i>Vegan ice cream vs. frozen dessert</i>							
Price	−0.05	0.16	−0.35	0.26	−0.29	.774	.787
Environment	0.08	0.08	−0.09	0.24	0.92	.355	.444
<i>Plant-based burgers vs. patties</i>							
Price	0.35	0.23	−0.11	0.80	1.49	.135	.338
Environment	0.17	0.09	−0.01	0.35	1.84	.066	.110
<i>Vegan mayo vs. Creamy spread</i>							
Price	0.08	0.15	−0.21	0.38	0.54	.587	.787
Environment	0.17	0.09	0.01	0.34	2.06	.040	.110

Table W15: Study 3: Treatment effects on price estimates (in dollars) and environmental-friendliness ratings (7-point scale) by product. Multiple-comparison correction (Benjamini–Hochberg) is over the five comparisons within each measure.

up of cow’s milk. All ten comparisons were significant (Table W16; nine at $p < .001$). As pre-registered, we also computed these composition positive controls separately by previous purchase and by intent to purchase (Tables W17–W20 in Web Appendix). We also pre-registered to compare price estimates across products, separately for treatment and control. Specifically, we compared price estimates for plant-based meat and almond milk, plant-based meat and cauliflower rice, and cauliflower rice and vegan ice cream (Table W21). All six price contrasts were significant ($p < .001$).

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow’s milk</i>						
Control	52.44	48.07	56.81	23.51	<.001	<.001
Treatment	59.25	55.22	63.28	28.81	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	−70.32	−74.48	−66.16	−33.11	<.001	<.001
Treatment	−53.86	−59.58	−48.15	−18.47	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow’s milk vs. eggs</i>						
Control	4.63	2.28	6.98	3.86	<.001	<.001
Treatment	2.19	0.43	3.95	2.44	.015	.015
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	16.90	14.65	19.15	14.70	<.001	<.001
Treatment	17.44	15.18	19.70	15.14	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	−26.77	−30.83	−22.72	−12.94	<.001	<.001
Treatment	−29.86	−33.74	−25.98	−15.09	<.001	<.001

Table W16: Study 3: Positive controls comparing respondents’ two composition estimates within each product (in percentage points), separately by condition.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	54.21	49.26	59.16	21.46	<.001	<.001
Treatment	60.98	56.49	65.47	26.64	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-75.10	-80.97	-69.24	-25.10	<.001	<.001
Treatment	-62.36	-69.66	-55.07	-16.76	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	1.52	-1.41	4.44	1.02	.309	.309
Treatment	2.97	0.09	5.85	2.02	.043	.043
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	16.08	13.52	18.63	12.34	<.001	<.001
Treatment	12.63	10.39	14.88	11.03	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-33.59	-41.44	-25.73	-8.38	<.001	<.001
Treatment	-37.29	-45.61	-28.96	-8.78	<.001	<.001

Table W17: Study 3: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who had previously purchased the product class.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	47.05	37.89	56.20	10.07	<.001	<.001
Treatment	53.73	44.87	62.60	11.88	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-66.01	-71.83	-60.19	-22.22	<.001	<.001
Treatment	-44.96	-53.62	-36.30	-10.17	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	6.04	2.91	9.17	3.78	<.001	<.001
Treatment	1.87	-0.31	4.06	1.68	.093	.093
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	18.01	14.00	22.02	8.80	<.001	<.001
Treatment	22.42	18.60	26.24	11.50	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-24.64	-29.33	-19.95	-10.29	<.001	<.001
Treatment	-27.72	-32.07	-23.37	-12.49	<.001	<.001

Table W18: Study 3: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who had not previously purchased the product class.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	54.16	48.83	59.49	19.92	<.001	<.001
Treatment	62.26	57.63	66.89	26.36	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-75.16	-80.68	-69.64	-26.67	<.001	<.001
Treatment	-60.46	-67.62	-53.30	-16.54	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	2.92	-1.02	6.86	1.45	.146	.146
Treatment	0.25	-1.68	2.19	0.26	.799	.799
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	16.00	13.04	18.95	10.62	<.001	<.001
Treatment	13.92	11.61	16.23	11.79	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-30.77	-38.27	-23.26	-8.04	<.001	<.001
Treatment	-30.54	-37.97	-23.11	-8.06	<.001	<.001

Table W19: Study 3: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who intended to purchase the product class.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	48.83	41.23	56.44	12.59	<.001	<.001
Treatment	52.12	44.28	59.96	13.03	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-65.21	-71.39	-59.04	-20.70	<.001	<.001
Treatment	-46.01	-55.02	-36.99	-10.00	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	5.41	2.50	8.32	3.65	<.001	<.001
Treatment	3.22	0.73	5.70	2.54	.011	.011
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	17.72	14.36	21.08	10.35	<.001	<.001
Treatment	20.47	16.83	24.11	11.02	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-25.26	-30.06	-20.46	-10.31	<.001	<.001
Treatment	-29.58	-34.12	-25.04	-12.76	<.001	<.001

Table W20: Study 3: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who did not intend to purchase the product class.

Condition	Estimate	SE	Lower CI	Upper CI	t	Unadj. p	Adj. p
<i>Almond milk vs. Plant-based burgers</i>							
Control	-1.50	0.08	-1.66	-1.34	-18.38	<.001	<.001
Treatment	-1.69	0.09	-1.87	-1.52	-18.82	<.001	<.001
<i>Cauliflower rice vs. Vegan ice cream</i>							
Control	-0.38	0.08	-0.54	-0.23	-4.74	<.001	<.001
Treatment	-0.55	0.06	-0.67	-0.44	-9.64	<.001	<.001
<i>Cauliflower rice vs. Plant-based burgers</i>							
Control	-1.31	0.09	-1.49	-1.13	-14.44	<.001	<.001
Treatment	-1.72	0.09	-1.89	-1.55	-20.05	<.001	<.001

Table W21: Study 3: Positive controls comparing price estimates across products, separately by condition.

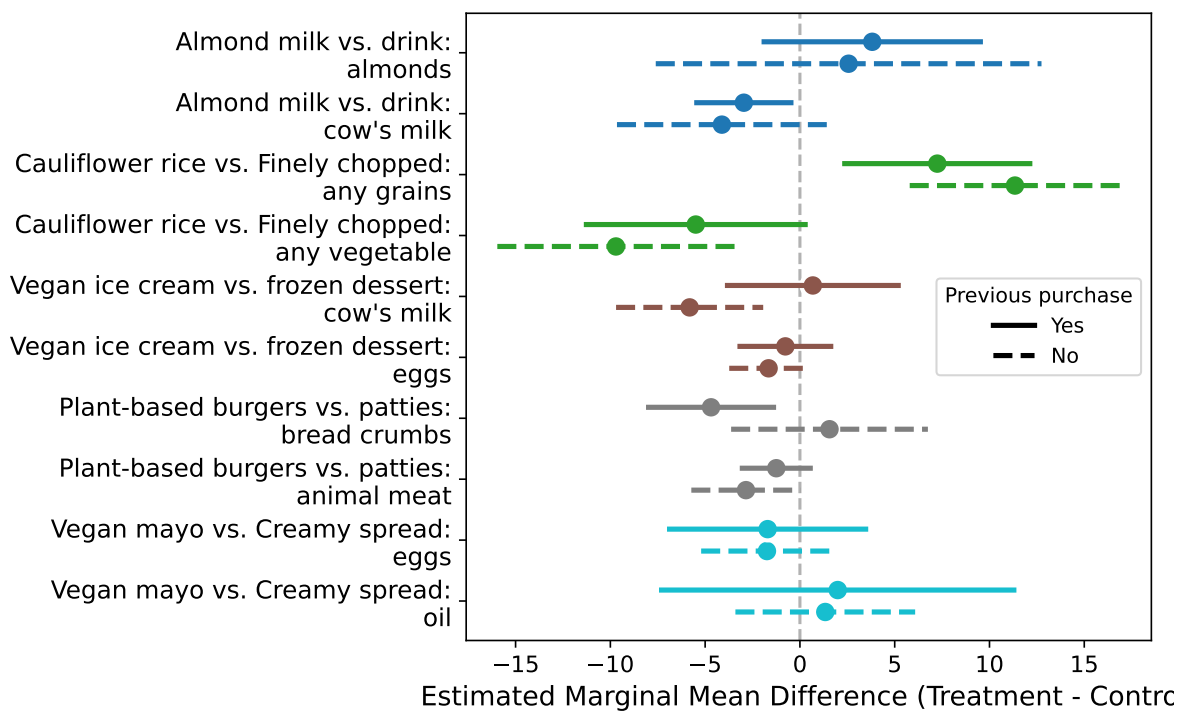


Figure W12: Study 3: Composition treatment effects by whether a participant had previously purchased.

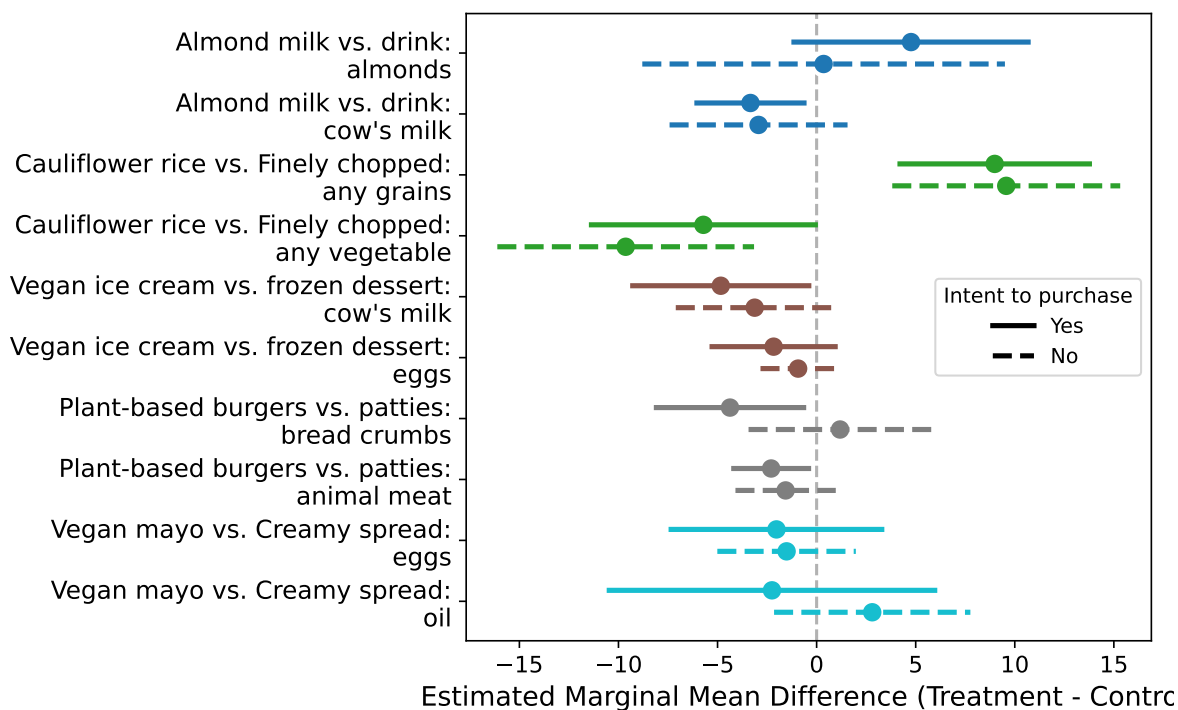


Figure W13: Study 3: Composition treatment effects by whether a participant intended to purchase.

Subgroup	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Almond milk vs. drink</i>							
Previous purchase: Yes	−0.04	0.17	−0.38	0.29	−0.26	.794	.876
Previous purchase: No	−0.01	0.34	−0.68	0.65	−0.04	.969	.969
Purchase intent: Yes	−0.05	0.18	−0.41	0.31	−0.28	.776	.962
Purchase intent: No	0.01	0.29	−0.55	0.57	0.04	.965	.965
<i>Cauliflower rice vs. Finely chopped</i>							
Previous purchase: Yes	0.04	0.27	−0.48	0.57	0.16	.876	.876
Previous purchase: No	−0.70	0.28	−1.25	−0.15	−2.50	.013	.063
Purchase intent: Yes	0.05	0.23	−0.39	0.50	0.23	.817	.962
Purchase intent: No	−0.75	0.32	−1.37	−0.13	−2.35	.019	.093
<i>Vegan ice cream vs. frozen dessert</i>							
Previous purchase: Yes	0.12	0.27	−0.41	0.65	0.44	.659	.876
Previous purchase: No	−0.12	0.19	−0.49	0.26	−0.60	.547	.911
Purchase intent: Yes	0.08	0.26	−0.43	0.60	0.31	.754	.962
Purchase intent: No	−0.11	0.20	−0.49	0.27	−0.57	.571	.951
<i>Plant-based burgers vs. patties</i>							
Previous purchase: Yes	0.72	0.31	0.11	1.32	2.30	.021	.107
Previous purchase: No	−0.08	0.35	−0.77	0.61	−0.22	.828	.969
Purchase intent: Yes	0.66	0.34	−0.01	1.32	1.93	.054	.270
Purchase intent: No	0.08	0.32	−0.55	0.70	0.24	.808	.965
<i>Vegan mayo vs. Creamy spread</i>							
Previous purchase: Yes	−0.39	0.31	−0.99	0.22	−1.26	.207	.518
Previous purchase: No	0.23	0.17	−0.10	0.56	1.35	.178	.445
Purchase intent: Yes	−0.01	0.27	−0.55	0.53	−0.05	.962	.962
Purchase intent: No	0.12	0.18	−0.24	0.47	0.65	.517	.951

Table W22: Study 3: Treatment effects on price estimates (in dollars) within each moderator subgroup, by product. Multiple-comparison correction (Benjamini–Hochberg) is over the five products within each subgroup.

Subgroup	Estimate	SE	Lower CI	Upper CI	t	Unadj. p	Adj. p
<i>Almond milk vs. drink</i>							
Previous purchase: Yes	0.15	0.11	−0.08	0.37	1.30	.193	.483
Previous purchase: No	0.26	0.17	−0.06	0.59	1.59	.112	.239
Purchase intent: Yes	0.18	0.12	−0.06	0.41	1.49	.136	.531
Purchase intent: No	0.17	0.16	−0.14	0.48	1.09	.277	.347
<i>Cauliflower rice vs. Finely chopped</i>							
Previous purchase: Yes	−0.09	0.12	−0.32	0.14	−0.78	.433	.722
Previous purchase: No	0.14	0.11	−0.07	0.35	1.31	.191	.239
Purchase intent: Yes	0.11	0.11	−0.11	0.33	1.00	.319	.531
Purchase intent: No	−0.06	0.11	−0.28	0.15	−0.58	.563	.563
<i>Vegan ice cream vs. frozen dessert</i>							
Previous purchase: Yes	0.01	0.15	−0.29	0.31	0.04	.970	.970
Previous purchase: No	0.11	0.10	−0.08	0.31	1.15	.252	.252
Purchase intent: Yes	−0.01	0.13	−0.28	0.25	−0.10	.922	.922
Purchase intent: No	0.12	0.10	−0.09	0.32	1.12	.265	.347
<i>Plant-based burgers vs. patties</i>							
Previous purchase: Yes	0.20	0.12	−0.04	0.43	1.65	.098	.483
Previous purchase: No	0.19	0.14	−0.09	0.46	1.34	.179	.239
Purchase intent: Yes	0.15	0.12	−0.09	0.39	1.22	.222	.531
Purchase intent: No	0.18	0.13	−0.07	0.43	1.42	.156	.347
<i>Vegan mayo vs. Creamy spread</i>							
Previous purchase: Yes	−0.03	0.18	−0.39	0.32	−0.19	.847	.970
Previous purchase: No	0.24	0.10	0.05	0.43	2.48	.013	.066
Purchase intent: Yes	0.10	0.15	−0.20	0.39	0.66	.509	.636
Purchase intent: No	0.19	0.10	0.00	0.39	1.91	.056	.279

Table W23: Study 3: Treatment effects on environmental-friendliness ratings (7-point scale) within each moderator subgroup, by product. Multiple-comparison correction over the five products within each subgroup.

Study 4 Composition inference (U.K. Sample): Results

Ingredient	Estimate	SE	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink</i>							
Almonds	0.30	2.50	−4.60	5.19	0.12	.906	.906
Cow's milk	−1.23	1.24	−3.66	1.20	−0.99	.321	.643
<i>Cauliflower rice vs. Finely chopped</i>							
Any grains	12.90	1.96	9.06	16.74	6.58	<.001	<.001
Any vegetable	−10.39	2.10	−14.50	−6.28	−4.95	<.001	<.001
<i>Vegan ice cream vs. frozen dessert</i>							
Cow's milk	−1.08	1.57	−4.16	2.00	−0.69	.492	.720
Eggs	0.15	0.93	−1.66	1.97	0.17	.868	.906
<i>Plant-based burgers vs. patties</i>							
Bread crumbs	0.83	1.37	−1.86	3.52	0.61	.545	.720
Animal meat	−1.21	0.69	−2.57	0.14	−1.75	.079	.198
<i>Vegan mayo vs. Creamy spread</i>							
Eggs	3.15	1.52	0.16	6.14	2.07	.039	.129
Oil	1.08	1.93	−2.70	4.85	0.56	.576	.720

Table W24: Study 4: Treatment effects on composition estimates (in percentage points) by product and ingredient. The z and p -values are from Wald tests. Multiple-comparison correction is over all ten comparisons.

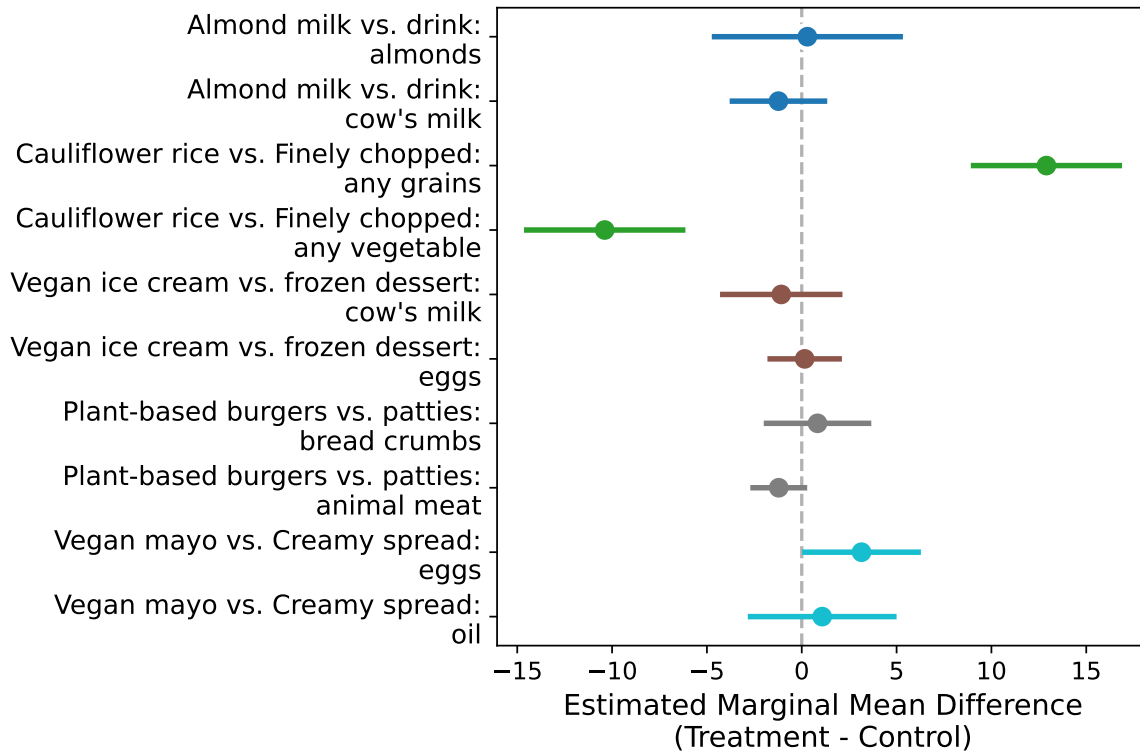


Figure W14: Treatment effects of labeling on composition estimates for Study 4 across all participants.

We provide more details here about the positive controls. All ten composition contrasts were significant (nine at $p < .001$; Table W27). All six price positive controls were significant ($p < .001$; Table W32). The composition positive controls computed separately by previous purchase and by intent to purchase are in Tables W28–W31.

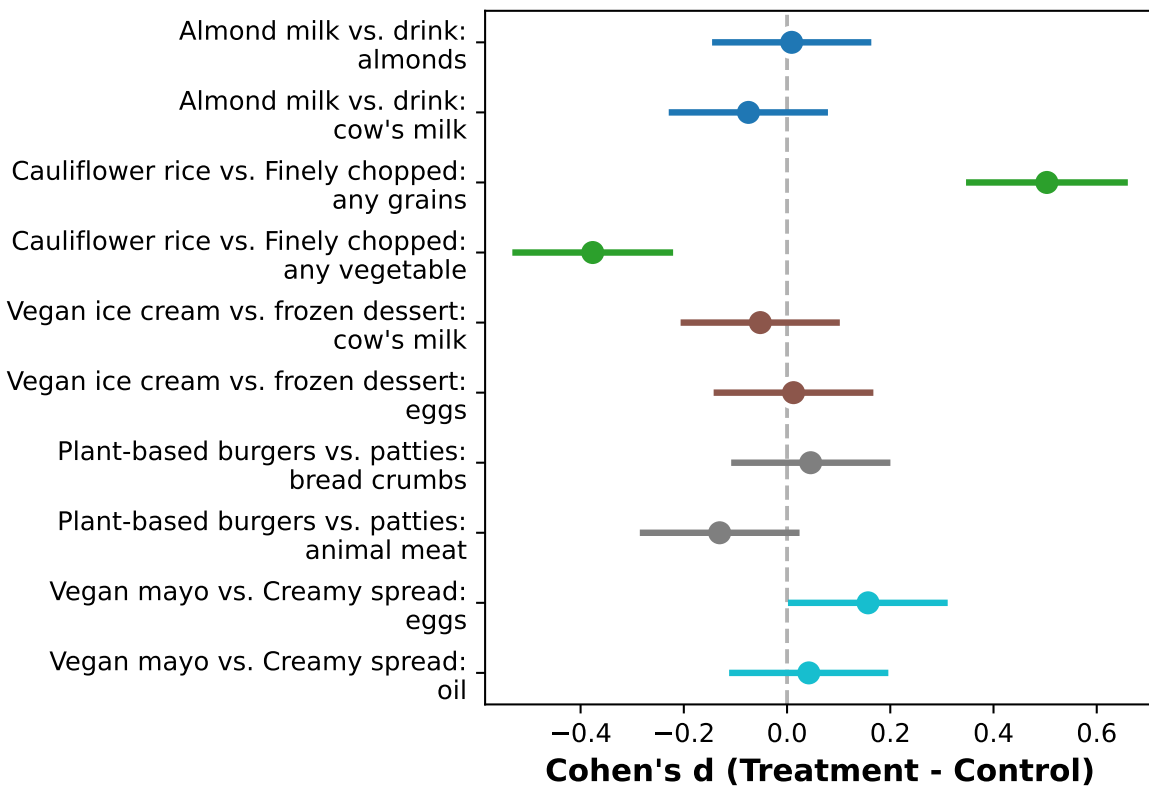


Figure W15: Study 4: Cohen's d for the various products and ingredients across all respondents.

Measure	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Almond milk vs. drink</i>							
Price	−0.02	0.09	−0.20	0.17	−0.17	.863	.863
Environment	0.10	0.11	−0.12	0.32	0.88	.380	.380
<i>Cauliflower rice vs. Finely chopped</i>							
Price	0.05	0.11	−0.16	0.27	0.50	.619	.774
Environment	0.17	0.09	−0.01	0.35	1.87	.061	.153
<i>Vegan ice cream vs. frozen dessert</i>							
Price	0.10	0.15	−0.19	0.39	0.66	.507	.774
Environment	0.13	0.10	−0.07	0.33	1.30	.193	.242
<i>Plant-based burgers vs. patties</i>							
Price	0.25	0.16	−0.06	0.56	1.60	.109	.546
Environment	0.16	0.10	−0.05	0.36	1.49	.137	.228
<i>Vegan mayo vs. Creamy spread</i>							
Price	0.07	0.12	−0.17	0.31	0.58	.561	.774
Environment	0.22	0.10	0.03	0.42	2.24	.025	.126

Table W25: Study 4: Treatment effects on price estimates (in pounds) and environmental-friendliness ratings (7-point scale) by product. Multiple-comparison correction (Benjamini–Hochberg) is over the five comparisons within each measure.

Product	Ingredient	Treatment %	Control %	χ^2	Unadj. <i>p</i>	Adj. <i>p</i>
Almond milk	Cow’s milk	9.7	15.8	5.26	.022	.131
Plant-based burgers	Animal meat	2.4	4.7	2.18	.139	.279
Cauliflower rice	Grain	56.0	48.9	3.29	.070	.210
Vegan mayo	Eggs	29.0	26.0	0.68	.409	.491
Vegan ice cream	Cow’s milk	15.2	18.5	1.10	.293	.440
Vegan ice cream	Eggs	21.4	20.7	0.02	.895	.895

Table W26: Study 4: Percentage of respondents estimating that a product contained more than 1% of an ingredient that is normatively absent, by condition, with chi-square tests comparing conditions.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	48.56	44.64	52.48	24.28	<.001	<.001
Treatment	50.08	45.72	54.44	22.51	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-70.67	-74.58	-66.76	-35.42	<.001	<.001
Treatment	-47.38	-53.47	-41.30	-15.26	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	4.43	2.36	6.50	4.19	<.001	<.001
Treatment	3.20	1.07	5.32	2.94	.003	.003
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	18.59	16.56	20.62	17.95	<.001	<.001
Treatment	20.63	18.66	22.61	20.47	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-26.75	-30.23	-23.26	-15.04	<.001	<.001
Treatment	-24.67	-28.57	-20.78	-12.42	<.001	<.001

Table W27: Study 4: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	49.18	44.59	53.76	21.01	<.001	<.001
Treatment	48.55	42.97	54.14	17.04	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-72.95	-79.58	-66.32	-21.55	<.001	<.001
Treatment	-54.10	-64.41	-43.78	-10.28	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	2.64	0.45	4.84	2.36	.018	.018
Treatment	2.96	-1.19	7.11	1.40	.162	.162
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	16.74	14.16	19.32	12.70	<.001	<.001
Treatment	18.51	15.99	21.03	14.38	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-25.47	-32.31	-18.63	-7.30	<.001	<.001
Treatment	-34.71	-42.34	-27.07	-8.91	<.001	<.001

Table W28: Study 4: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who had previously purchased the product class.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	47.03	39.51	54.55	12.26	<.001	<.001
Treatment	53.01	46.18	59.84	15.21	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	−69.50	−74.33	−64.67	−28.18	<.001	<.001
Treatment	−43.96	−51.46	−36.46	−11.49	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	5.41	2.45	8.37	3.58	<.001	<.001
Treatment	3.29	0.82	5.76	2.61	.009	.009
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	21.01	17.80	24.21	12.84	<.001	<.001
Treatment	23.66	20.57	26.76	14.98	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	−27.15	−31.20	−23.11	−13.15	<.001	<.001
Treatment	−21.70	−26.15	−17.25	−9.56	<.001	<.001

Table W29: Study 4: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who had not previously purchased the product class.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	51.77	46.80	56.73	20.44	<.001	<.001
Treatment	50.03	44.28	55.78	17.04	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-73.29	-79.01	-67.57	-25.11	<.001	<.001
Treatment	-50.21	-59.60	-40.81	-10.48	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	3.38	0.95	5.80	2.72	.006	.006
Treatment	5.62	1.96	9.28	3.01	.003	.003
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	16.15	13.29	19.01	11.07	<.001	<.001
Treatment	17.54	14.84	20.24	12.74	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-20.08	-26.48	-13.69	-6.15	<.001	<.001
Treatment	-24.26	-32.11	-16.40	-6.05	<.001	<.001

Table W30: Study 4: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who intended to purchase the product class.

Condition	Estimate	Lower CI	Upper CI	z	Unadj. p	Adj. p
<i>Almond milk vs. drink: Almonds vs. cow's milk</i>						
Control	43.30	37.01	49.59	13.49	<.001	<.001
Treatment	50.17	43.54	56.79	14.84	<.001	<.001
<i>Cauliflower rice vs. Finely chopped: Grains vs. vegetable</i>						
Control	-68.62	-73.95	-63.30	-25.25	<.001	<.001
Treatment	-45.21	-53.18	-37.24	-11.12	<.001	<.001
<i>Vegan ice cream vs. frozen dessert: Cow's milk vs. eggs</i>						
Control	5.10	2.09	8.12	3.32	.001	.001
Treatment	1.97	-0.63	4.57	1.49	.137	.137
<i>Plant-based burgers vs. patties: Bread crumbs vs. animal meat</i>						
Control	21.27	18.45	24.10	14.76	<.001	<.001
Treatment	23.65	20.84	26.46	16.51	<.001	<.001
<i>Vegan mayo vs. Creamy spread: Eggs vs. oil</i>						
Control	-29.16	-33.27	-25.05	-13.91	<.001	<.001
Treatment	-24.82	-29.30	-20.35	-10.87	<.001	<.001

Table W31: Study 4: Positive controls comparing respondents' two composition estimates within each product (in percentage points), separately by condition, among participants who did not intend to purchase the product class.

Condition	Estimate	SE	Lower CI	Upper CI	t	Unadj. p	Adj. p
<i>Almond milk vs. Plant-based burgers</i>							
Control	-0.95	0.06	-1.06	-0.83	-16.15	<.001	<.001
Treatment	-1.11	0.07	-1.24	-0.98	-16.94	<.001	<.001
<i>Cauliflower rice vs. Vegan ice cream</i>							
Control	-0.66	0.06	-0.77	-0.55	-11.74	<.001	<.001
Treatment	-0.66	0.05	-0.76	-0.56	-13.44	<.001	<.001
<i>Cauliflower rice vs. Plant-based burgers</i>							
Control	-0.65	0.06	-0.76	-0.54	-11.53	<.001	<.001
Treatment	-0.74	0.06	-0.86	-0.62	-12.12	<.001	<.001

Table W32: Study 4: Positive controls comparing price estimates across products, separately by condition.

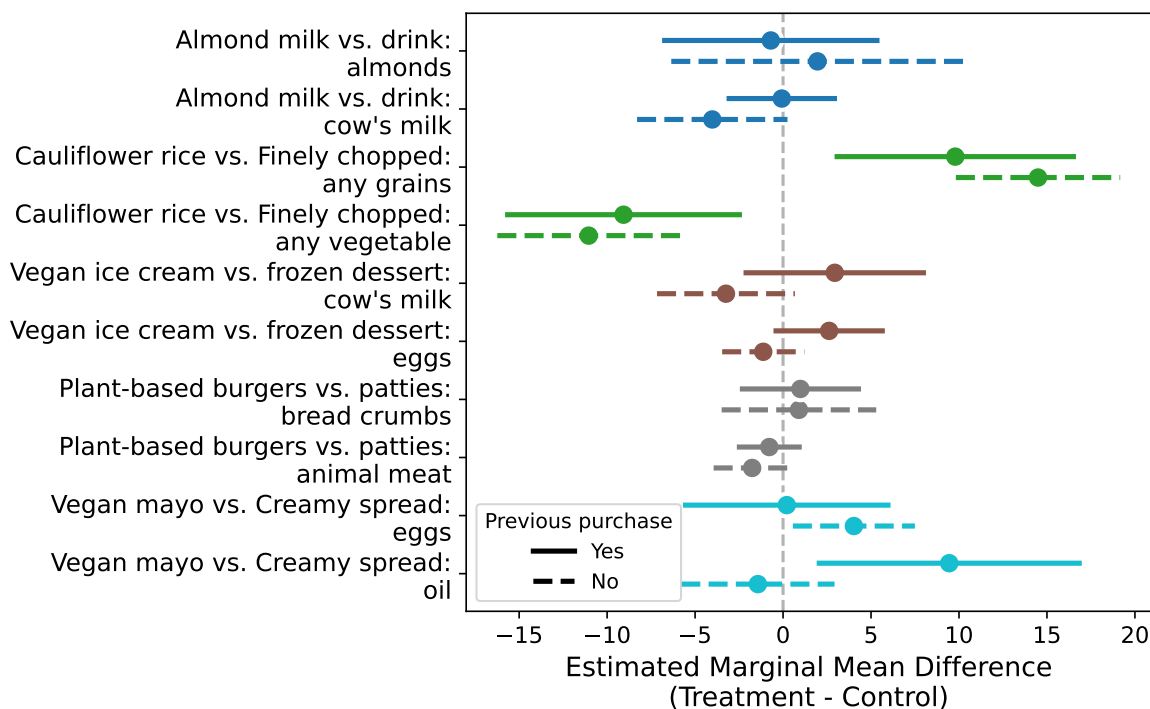


Figure W16: Study 4: Composition treatment effects by whether a participant had previously purchased.

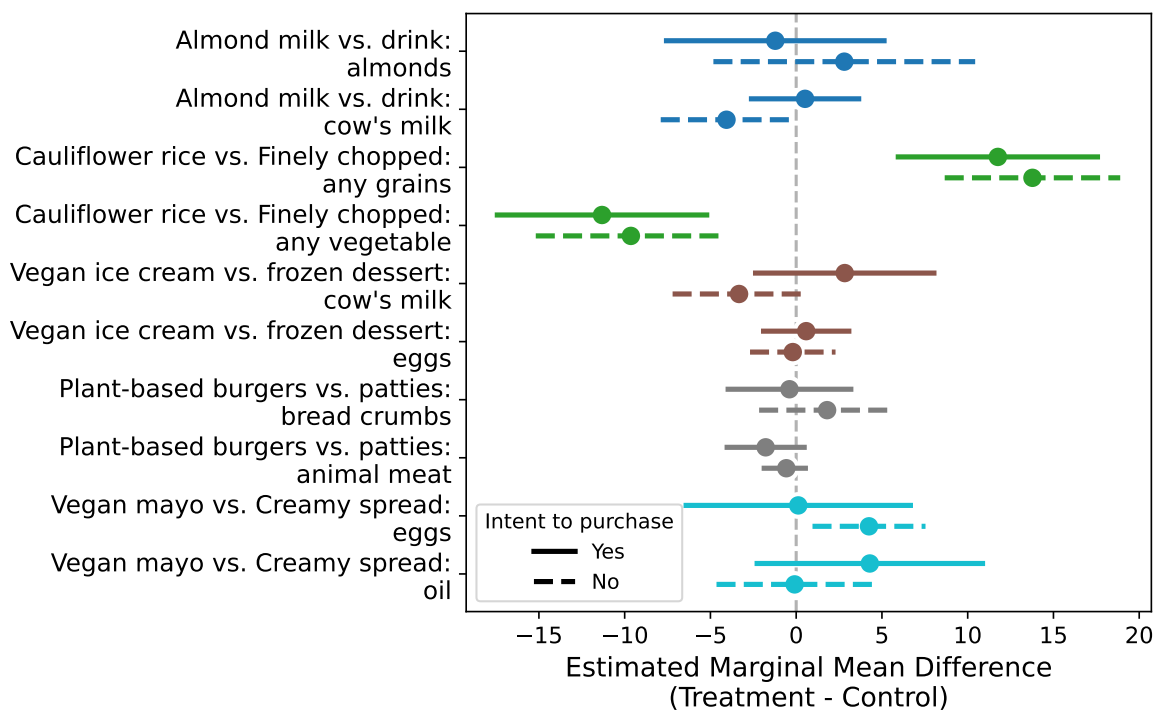


Figure W17: Study 4: Composition treatment effects by whether a participant intended to purchase.

Subgroup	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Almond milk vs. drink</i>							
Previous purchase: Yes	0.01	0.11	−0.21	0.22	0.06	.949	.949
Previous purchase: No	−0.06	0.17	−0.39	0.28	−0.32	.747	.896
Purchase intent: Yes	0.09	0.11	−0.14	0.31	0.77	.439	.673
Purchase intent: No	−0.18	0.16	−0.49	0.12	−1.17	.241	.480
<i>Cauliflower rice vs. Finely chopped</i>							
Previous purchase: Yes	−0.06	0.18	−0.42	0.29	−0.36	.722	.949
Previous purchase: No	0.12	0.14	−0.15	0.38	0.85	.398	.663
Purchase intent: Yes	−0.07	0.17	−0.39	0.25	−0.42	.673	.673
Purchase intent: No	0.15	0.14	−0.13	0.43	1.06	.288	.480
<i>Vegan ice cream vs. frozen dessert</i>							
Previous purchase: Yes	−0.05	0.25	−0.54	0.45	−0.19	.847	.949
Previous purchase: No	0.20	0.18	−0.16	0.56	1.11	.269	.663
Purchase intent: Yes	0.15	0.25	−0.34	0.64	0.60	.550	.673
Purchase intent: No	0.11	0.18	−0.25	0.48	0.61	.542	.678
<i>Plant-based burgers vs. patties</i>							
Previous purchase: Yes	0.19	0.20	−0.21	0.59	0.91	.361	.903
Previous purchase: No	0.33	0.25	−0.15	0.82	1.34	.179	.663
Purchase intent: Yes	0.19	0.21	−0.22	0.60	0.92	.356	.673
Purchase intent: No	0.32	0.24	−0.14	0.78	1.37	.170	.480
<i>Vegan mayo vs. Creamy spread</i>							
Previous purchase: Yes	0.38	0.25	−0.11	0.88	1.53	.125	.626
Previous purchase: No	−0.02	0.14	−0.29	0.26	−0.13	.896	.896
Purchase intent: Yes	0.25	0.26	−0.25	0.76	0.99	.322	.673
Purchase intent: No	0.01	0.14	−0.26	0.28	0.05	.961	.961

Table W33: Study 4: Treatment effects on price estimates (in pounds) within each moderator subgroup, by product. Multiple-comparison correction (Benjamini–Hochberg) is over the five products within each subgroup.

Subgroup	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
<i>Almond milk vs. drink</i>							
Previous purchase: Yes	0.13	0.13	−0.13	0.39	0.99	.323	.538
Previous purchase: No	0.09	0.21	−0.33	0.50	0.41	.685	.685
Purchase intent: Yes	0.13	0.14	−0.14	0.40	0.95	.343	.429
Purchase intent: No	0.06	0.19	−0.31	0.44	0.33	.741	.741
<i>Cauliflower rice vs. Finely chopped</i>							
Previous purchase: Yes	−0.01	0.15	−0.30	0.28	−0.07	.947	.947
Previous purchase: No	0.26	0.11	0.04	0.48	2.33	.020	.073
Purchase intent: Yes	0.14	0.12	−0.10	0.38	1.17	.243	.404
Purchase intent: No	0.19	0.13	−0.06	0.44	1.52	.128	.214
<i>Vegan ice cream vs. frozen dessert</i>							
Previous purchase: Yes	0.22	0.16	−0.10	0.54	1.34	.179	.449
Previous purchase: No	0.11	0.13	−0.14	0.36	0.89	.374	.468
Purchase intent: Yes	0.28	0.15	−0.02	0.57	1.81	.071	.282
Purchase intent: No	0.07	0.13	−0.18	0.33	0.57	.569	.712
<i>Plant-based burgers vs. patties</i>							
Previous purchase: Yes	−0.02	0.13	−0.26	0.23	−0.13	.900	.947
Previous purchase: No	0.38	0.18	0.04	0.73	2.18	.029	.073
Purchase intent: Yes	0.06	0.13	−0.20	0.31	0.43	.667	.667
Purchase intent: No	0.28	0.16	−0.03	0.60	1.76	.079	.211
<i>Vegan mayo vs. Creamy spread</i>							
Previous purchase: Yes	0.30	0.18	−0.05	0.64	1.68	.094	.449
Previous purchase: No	0.20	0.12	−0.03	0.43	1.71	.087	.145
Purchase intent: Yes	0.27	0.17	−0.06	0.61	1.59	.113	.282
Purchase intent: No	0.21	0.12	−0.03	0.44	1.73	.085	.211

Table W34: Study 4: Treatment effects on environmental-friendliness ratings (7-point scale) within each moderator subgroup, by product. Multiple-comparison correction over the five products within each subgroup.

WEB APPENDIX C: STUDY 5 INGREDIENTS LISTING

Participants were told that when launching a new product or brand it is important to understand consumer expectations, and were given the following example: “For example, two brands of sliced bread may both contain flour, water, sugar, and yeast as their main ingredients, but one also contain honey and oats whereas the other also contains emulsifiers and preservatives. Consumers might expect these differences and might not.” Participants were asked not to look up any information online.

Figure W18 shows the products presented to participants. The two distractor products were tomato soup and trail mix.



Figure W18: Study 5: Products presented to participants.

Table W35 shows the failure rate for the attention check against the position at which it appeared.

As pre-registered, we did not test additive or sweetener categories.

Position	N	Failed	Fail %
1	125	53	42.4
2	156	95	60.9
3	153	84	54.9
4	149	93	62.4
5	147	99	67.3
6	139	96	69.1
7	134	93	69.4

Table W35: Study 5: Attention check failure rate by the position at which the tomato soup question appeared in the randomized product order.

Product	Ingredient	Sample	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Almond Milk	milk	Catch	12	186	10	168	2	0.67	.505
Almond Milk	milk	Full	10	471	8	449	2	1.13	.260
Plant Burgers	meat	Catch	2	182	4	173	-2	-0.72	.470
Plant Burgers	meat	Full	2	461	4	461	-2	-1.48	.138
Cauliflower Rice	rice	Catch	22	185	1	169	21	6.18	<.001
Cauliflower Rice	rice	Full	21	471	0	450	21	10.26	<.001
Vegan Mayo	eggs	Catch	17	174	11	177	6	1.62	.106
Vegan Mayo	eggs	Full	17	455	11	463	6	2.66	.008
Vegan Ice Cream	dairy	Catch	23	181	23	173	0	0.15	.882
Vegan Ice Cream	dairy	Full	26	475	25	445	1	0.32	.749

Table W36: Study 5: Comparisons between labeling conditions in the percentage of participants listing the pre-registered specified ingredient for each product, using only participants' first three listed ingredients, for participants who passed the attention check and for the full sample.

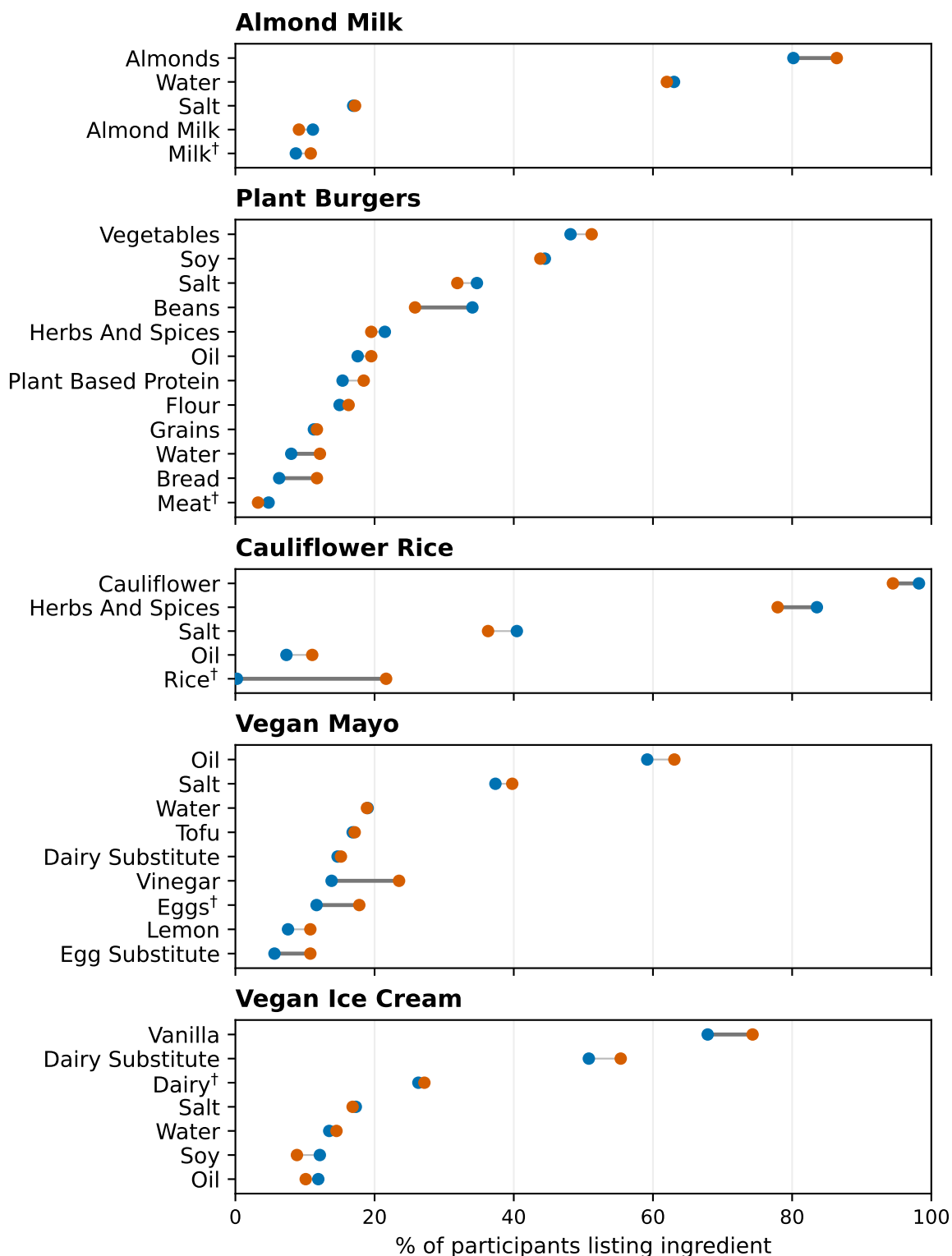


Figure W19: Study 5: Percentage of participants listing each ingredient in the treatment (orange) and control (blue) labeling conditions, among participants, whether or not they failed the attention check. Ingredients are those listed by at least 10% of participants in either condition, plus the pre-registered specified ingredient for each product (†). A dark line joining the two conditions marks a significant difference ($p < .05$); a light line marks a non-significant difference.

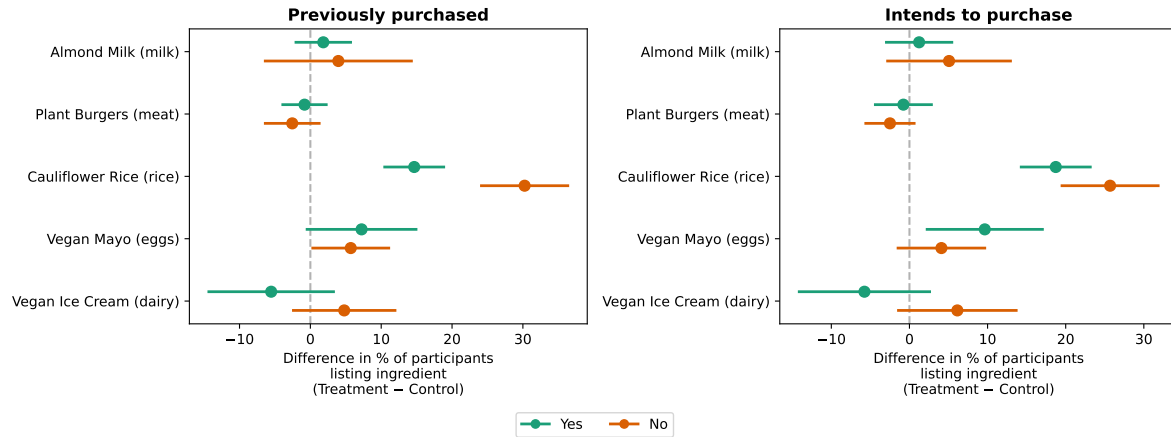


Figure W20: Study 5: Differences between labeling conditions in the percentage of participants listing the specified ingredient for each product, within subsets defined by previous purchases and purchase intent. Error bars are 95% confidence intervals.

Product	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Almond Milk	almonds [†]	86.4	471	80.2	449	6.2	2.54	.011
Almond Milk	water [†]	62.0	471	63.0	449	-1.0	-0.32	.746
Almond Milk	salt [†]	17.2	471	16.9	449	0.3	0.11	.913
Almond Milk	milk [†]	10.8	471	8.7	449	2.1	1.09	.274
Almond Milk	almond milk [†]	9.1	471	11.1	449	-2.0	-1.01	.313
Plant Burgers	vegetables [†]	51.2	461	48.2	461	3.0	0.92	.356
Plant Burgers	soy [†]	43.8	461	44.5	461	-0.7	-0.20	.842
Plant Burgers	salt [†]	31.9	461	34.7	461	-2.8	-0.91	.364
Plant Burgers	beans [†]	25.8	461	34.1	461	-8.3	-2.73	.006
Plant Burgers	herbs and spices [†]	19.5	461	21.5	461	-2.0	-0.73	.463
Plant Burgers	oil [†]	19.5	461	17.6	461	1.9	0.76	.446
Plant Burgers	plant based protein	18.4	461	15.4	461	3.0	1.23	.219
Plant Burgers	flour	16.3	461	15.0	461	1.3	0.54	.586
Plant Burgers	water	12.1	461	8.0	461	4.1	2.08	.038
Plant Burgers	grains	11.7	461	11.3	461	0.4	0.21	.836
Plant Burgers	bread	11.7	461	6.3	461	5.4	2.88	.004
Cauliflower Rice	cauliflower [†]	94.5	471	98.2	450	-3.7	-3.01	.003
Cauliflower Rice	herbs and spices [†]	77.9	471	83.6	450	-5.7	-2.17	.030
Cauliflower Rice	salt [†]	36.3	471	40.4	450	-4.1	-1.29	.197
Cauliflower Rice	rice [†]	21.7	471	0.2	450	21.5	10.32	<.001
Cauliflower Rice	oil [†]	11.0	471	7.3	450	3.7	1.94	.052
Cauliflower Rice	garlic [†]	8.3	471	8.7	450	-0.4	-0.21	.833
Vegan Mayo	oil [†]	63.1	455	59.2	463	3.9	1.21	.226
Vegan Mayo	salt [†]	39.8	455	37.4	463	2.4	0.75	.452
Vegan Mayo	vinegar [†]	23.5	455	13.8	463	9.7	3.77	<.001
Vegan Mayo	water [†]	18.9	455	19.0	463	-0.1	-0.04	.968
Vegan Mayo	eggs [†]	17.8	455	11.7	463	6.1	2.63	.009
Vegan Mayo	tofu [†]	17.1	455	16.8	463	0.3	0.12	.905
Vegan Mayo	dairy substitute [†]	15.2	455	14.7	463	0.5	0.20	.839
Vegan Mayo	lemon	10.8	455	7.6	463	3.2	1.69	.092
Vegan Mayo	egg substitute	10.8	455	5.6	463	5.2	2.85	.004
Vegan Ice Cream	vanilla [†]	74.3	475	67.9	445	6.4	2.16	.031
Vegan Ice Cream	dairy substitute [†]	55.4	475	50.8	445	4.6	1.39	.164
Vegan Ice Cream	dairy [†]	27.2	475	26.3	445	0.9	0.30	.767
Vegan Ice Cream	salt [†]	16.8	475	17.3	445	-0.5	-0.19	.853
Vegan Ice Cream	water [†]	14.5	475	13.5	445	1.0	0.46	.649
Vegan Ice Cream	oil	10.1	475	11.9	445	-1.8	-0.88	.382
Vegan Ice Cream	soy	8.8	475	12.1	445	-3.3	-1.63	.103

Table W37: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient, over complete ingredient lists. Ingredients are included if listed by at least 10% of participants in either condition or if among the five most frequently listed in either condition; [†] marks the five most frequently listed.

Product	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Almond Milk	almonds [†]	85.8	471	79.7	449	6.1	2.43	.015
Almond Milk	water [†]	60.9	471	61.9	449	-1.0	-0.31	.760
Almond Milk	milk [†]	10.4	471	8.2	449	2.2	1.13	.260
Almond Milk	almond milk [†]	9.1	471	11.1	449	-2.0	-1.01	.313
Almond Milk	salt [†]	8.3	471	9.6	449	-1.3	-0.69	.490
Plant Burgers	soy [†]	42.7	461	43.0	461	-0.3	-0.07	.947
Plant Burgers	vegetables [†]	40.6	461	40.3	461	0.3	0.07	.947
Plant Burgers	beans [†]	23.6	461	31.9	461	-8.3	-2.79	.005
Plant Burgers	salt [†]	17.4	461	18.0	461	-0.6	-0.26	.796
Plant Burgers	plant based protein [†]	17.4	461	14.1	461	3.3	1.36	.175
Plant Burgers	flour	13.7	461	12.4	461	1.3	0.59	.557
Plant Burgers	oil	13.4	461	11.5	461	1.9	0.90	.370
Plant Burgers	grains	9.1	461	10.6	461	-1.5	-0.77	.440
Cauliflower Rice	cauliflower [†]	94.3	471	98.2	450	-3.9	-3.14	.002
Cauliflower Rice	herbs and spices [†]	68.2	471	78.0	450	-9.8	-3.36	<.001
Cauliflower Rice	salt [†]	25.5	471	30.4	450	-4.9	-1.68	.093
Cauliflower Rice	rice [†]	21.4	471	0.2	450	21.2	10.26	<.001
Cauliflower Rice	water [†]	8.1	471	5.1	450	3.0	1.80	.071
Cauliflower Rice	oil [†]	7.0	471	5.1	450	1.9	1.20	.229
Vegan Mayo	oil [†]	61.5	455	57.0	463	4.5	1.39	.164
Vegan Mayo	salt [†]	23.3	455	24.8	463	-1.5	-0.55	.585
Vegan Mayo	vinegar [†]	19.1	455	10.2	463	8.9	3.85	<.001
Vegan Mayo	water [†]	17.4	455	17.5	463	-0.1	-0.05	.958
Vegan Mayo	eggs [†]	17.4	455	11.2	463	6.2	2.66	.008
Vegan Mayo	tofu [†]	16.0	455	16.2	463	-0.2	-0.06	.949
Vegan Mayo	dairy substitute [†]	14.9	455	14.3	463	0.6	0.30	.767
Vegan Mayo	egg substitute	10.3	455	5.6	463	4.7	2.64	.008
Vegan Ice Cream	dairy substitute [†]	54.1	475	49.4	445	4.7	1.42	.157
Vegan Ice Cream	vanilla [†]	53.1	475	52.6	445	0.5	0.14	.887
Vegan Ice Cream	dairy [†]	26.3	475	25.4	445	0.9	0.32	.749
Vegan Ice Cream	water [†]	12.4	475	11.5	445	0.9	0.45	.654
Vegan Ice Cream	soy [†]	8.2	475	11.9	445	-3.7	-1.87	.062
Vegan Ice Cream	oil	6.9	475	10.3	445	-3.4	-1.83	.067

Table W38: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient, using only the first three listed ingredients. Ingredients are included if listed by at least 10% of participants in either condition or if among the five most frequently listed in either condition; [†] marks the five most frequently listed.

Product	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	<i>z</i>	<i>p</i>
Almond Milk	almonds [†]	89.2	186	82.7	168	6.5	1.77	.077
Almond Milk	water [†]	62.9	186	63.1	168	−0.2	−0.04	.970
Almond Milk	salt [†]	21.0	186	18.5	168	2.5	0.59	.553
Almond Milk	milk [†]	12.9	186	10.1	168	2.8	0.82	.414
Almond Milk	almond milk [†]	8.6	186	7.7	168	0.9	0.30	.767
Almond Milk	misc [†]	3.8	186	7.7	168	−3.9	−1.62	.106
Plant Burgers	vegetables [†]	53.3	182	48.6	173	4.7	0.89	.372
Plant Burgers	soy [†]	37.4	182	52.0	173	−14.6	−2.78	.005
Plant Burgers	salt [†]	32.4	182	39.3	173	−6.9	−1.35	.176
Plant Burgers	oil [†]	25.3	182	18.5	173	6.8	1.54	.123
Plant Burgers	plant based protein [†]	22.5	182	12.7	173	9.8	2.42	.016
Plant Burgers	beans [†]	21.4	182	30.6	173	−9.2	−1.98	.048
Plant Burgers	flour	20.3	182	14.5	173	5.8	1.46	.145
Plant Burgers	water	19.2	182	10.4	173	8.8	2.33	.020
Plant Burgers	herbs and spices [†]	18.1	182	20.8	173	−2.7	−0.64	.524
Plant Burgers	bread	13.2	182	6.9	173	6.3	1.95	.051
Plant Burgers	grains	8.8	182	10.4	173	−1.6	−0.52	.606
Cauliflower Rice	cauliflower [†]	92.4	185	98.2	169	−5.8	−2.55	.011
Cauliflower Rice	herbs and spices [†]	76.2	185	79.3	169	−3.1	−0.69	.488
Cauliflower Rice	salt [†]	37.8	185	43.2	169	−5.4	−1.03	.305
Cauliflower Rice	rice [†]	22.2	185	0.6	169	21.6	6.27	<.001
Cauliflower Rice	oil [†]	13.5	185	7.7	169	5.8	1.77	.077
Cauliflower Rice	water [†]	10.3	185	9.5	169	0.8	0.25	.800
Cauliflower Rice	garlic [†]	8.6	185	7.7	169	0.9	0.33	.743
Vegan Mayo	oil [†]	68.4	174	60.5	177	7.9	1.55	.120
Vegan Mayo	salt [†]	41.4	174	37.9	177	3.5	0.68	.499
Vegan Mayo	vinegar [†]	30.5	174	14.1	177	16.4	3.68	<.001
Vegan Mayo	water [†]	22.4	174	20.3	177	2.1	0.47	.635
Vegan Mayo	eggs [†]	17.2	174	10.7	177	6.5	1.76	.079
Vegan Mayo	tofu [†]	16.7	174	15.8	177	0.9	0.22	.830
Vegan Mayo	dairy substitute [†]	13.2	174	14.7	177	−1.5	−0.40	.691
Vegan Mayo	lemon	12.1	174	7.9	177	4.2	1.30	.193
Vegan Mayo	egg substitute	12.1	174	6.2	177	5.9	1.91	.057
Vegan Mayo	plants	6.3	174	10.7	177	−4.4	−1.48	.139
Vegan Mayo	emulsifier	5.7	174	10.7	177	−5.0	−1.70	.090
Vegan Ice Cream	vanilla [†]	74.6	181	68.8	173	5.8	1.21	.226
Vegan Ice Cream	dairy substitute [†]	56.9	181	52.0	173	4.9	0.92	.356
Vegan Ice Cream	dairy [†]	24.9	181	22.5	173	2.4	0.51	.608
Vegan Ice Cream	water [†]	19.9	181	14.5	173	5.4	1.35	.176
Vegan Ice Cream	salt [†]	17.7	181	20.2	173	−2.5	−0.61	.540
Vegan Ice Cream	oil [†]	16.0	181	14.5	173	1.5	0.41	.681
Vegan Ice Cream	soy	8.3	181	11.6	173	−3.3	−1.03	.302

Table W39: Study 5: Comparisons between labeling conditions among participants who passed the attention check, over complete ingredient lists. Ingredients are included if listed by at least 10% of either condition within this subsample or if among the five most frequently listed in either condition; [†] marks the five most frequently listed.

Product	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Almond Milk	almonds [†]	88.2	186	82.1	168	6.1	1.60	.110
Almond Milk	water [†]	61.8	186	61.3	168	0.5	0.10	.920
Almond Milk	milk [†]	12.4	186	10.1	168	2.3	0.67	.505
Almond Milk	salt [†]	9.1	186	7.1	168	2.0	0.68	.494
Almond Milk	almond milk [†]	8.6	186	7.7	168	0.9	0.30	.767
Plant Burgers	vegetables [†]	40.7	182	42.2	173	-1.5	-0.29	.769
Plant Burgers	soy [†]	37.4	182	51.4	173	-14.0	-2.67	.008
Plant Burgers	plant based protein [†]	20.9	182	11.6	173	9.3	2.37	.018
Plant Burgers	beans [†]	19.2	182	28.9	173	-9.7	-2.13	.033
Plant Burgers	salt [†]	17.6	182	19.7	173	-2.1	-0.50	.616
Plant Burgers	oil [†]	16.5	182	12.7	173	3.8	1.00	.316
Plant Burgers	flour	16.5	182	11.6	173	4.9	1.33	.183
Plant Burgers	water	14.8	182	9.8	173	5.0	1.43	.152
Cauliflower Rice	cauliflower [†]	91.9	185	98.2	169	-6.3	-2.71	.007
Cauliflower Rice	herbs and spices [†]	68.1	185	72.2	169	-4.1	-0.84	.402
Cauliflower Rice	salt [†]	23.8	185	34.3	169	-10.5	-2.19	.029
Cauliflower Rice	rice [†]	21.6	185	0.6	169	21.0	6.18	<.001
Cauliflower Rice	water [†]	9.2	185	8.3	169	0.9	0.30	.763
Cauliflower Rice	oil [†]	7.0	185	6.5	169	0.5	0.19	.846
Vegan Mayo	oil [†]	66.1	174	58.8	177	7.3	1.42	.156
Vegan Mayo	vinegar [†]	25.9	174	10.7	177	15.2	3.67	<.001
Vegan Mayo	water [†]	21.3	174	19.8	177	1.5	0.35	.730
Vegan Mayo	salt [†]	18.4	174	23.7	177	-5.3	-1.23	.220
Vegan Mayo	eggs [†]	16.7	174	10.7	177	6.0	1.62	.106
Vegan Mayo	tofu [†]	15.5	174	15.8	177	-0.3	-0.08	.938
Vegan Mayo	dairy substitute [†]	12.6	174	14.1	177	-1.5	-0.41	.684
Vegan Mayo	egg substitute	11.5	174	6.2	177	5.3	1.74	.081
Vegan Mayo	plants	5.7	174	10.2	177	-4.5	-1.53	.126
Vegan Ice Cream	dairy substitute [†]	54.7	181	50.3	173	4.4	0.83	.407
Vegan Ice Cream	vanilla [†]	49.2	181	51.4	173	-2.2	-0.43	.669
Vegan Ice Cream	dairy [†]	23.2	181	22.5	173	0.7	0.15	.882
Vegan Ice Cream	water [†]	17.7	181	13.3	173	4.4	1.14	.255
Vegan Ice Cream	oil [†]	10.5	181	11.6	173	-1.1	-0.32	.749
Vegan Ice Cream	soy	7.2	181	11.6	173	-4.4	-1.42	.157

Table W40: Study 5: Comparisons between labeling conditions among participants who passed the attention check, using only the first three listed ingredients. Ingredients are included if listed by at least 10% of either condition within this subsample or if among the five most frequently listed in either condition; [†] marks the five most frequently listed.

Product	Purchased	Subset	Positions	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Almond Milk – milk	Previously	Yes	All	9.8	389	7.9	365	1.9	0.88	.379
	Previously	Yes	First 3	9.3	389	7.7	365	1.6	0.78	.436
	Previously	No	All	15.9	82	11.9	84	4.0	0.74	.462
	Previously	No	First 3	15.9	82	10.7	84	5.2	0.98	.329
	Intends	Yes	All	10.2	363	9.0	335	1.2	0.55	.579
	Intends	Yes	First 3	9.6	363	8.7	335	0.9	0.45	.652
	Intends	No	All	13.0	108	7.9	114	5.1	1.24	.216
	Intends	No	First 3	13.0	108	7.0	114	6.0	1.48	.138
Plant Burgers – meat	Previously	Yes	All	3.6	280	4.4	273	−0.8	−0.50	.620
	Previously	Yes	First 3	2.5	280	4.0	273	−1.5	−1.01	.311
	Previously	No	All	2.8	181	5.3	188	−2.5	−1.24	.214
	Previously	No	First 3	2.2	181	4.3	188	−2.1	−1.11	.268
	Intends	Yes	All	4.3	254	5.1	235	−0.8	−0.40	.686
	Intends	Yes	First 3	2.8	254	4.7	235	−1.9	−1.13	.259
	Intends	No	All	1.9	207	4.4	226	−2.5	−1.46	.143
	Intends	No	First 3	1.9	207	3.5	226	−1.6	−1.02	.309
Cauliflower Rice – rice	Previously	Yes	All	15.0	266	0.4	265	14.6	6.33	<.001
	Previously	Yes	First 3	15.0	266	0.4	265	14.6	6.33	<.001
	Previously	No	All	30.2	205	0.0	185	30.2	8.16	<.001
	Previously	No	First 3	29.8	205	0.0	185	29.8	8.08	<.001
	Intends	Yes	All	19.1	288	0.4	271	18.7	7.37	<.001
	Intends	Yes	First 3	19.1	288	0.4	271	18.7	7.37	<.001
	Intends	No	All	25.7	183	0.0	179	25.7	7.27	<.001
	Intends	No	First 3	25.1	183	0.0	179	25.1	7.18	<.001
Vegan Mayo – eggs	Previously	Yes	All	15.6	128	8.4	131	7.2	1.79	.073
	Previously	Yes	First 3	14.1	128	7.6	131	6.5	1.67	.096
	Previously	No	All	18.7	327	13.0	332	5.7	2.01	.045
	Previously	No	First 3	18.7	327	12.7	332	6.0	2.12	.034
	Intends	Yes	All	19.9	171	10.2	166	9.7	2.47	.014
	Intends	Yes	First 3	18.7	171	9.6	166	9.1	2.38	.017
	Intends	No	All	16.5	284	12.5	297	4.0	1.40	.161
	Intends	No	First 3	16.5	284	12.1	297	4.4	1.52	.127
Vegan Ice Cream – dairy	Previously	Yes	All	20.6	180	26.1	161	−5.5	−1.21	.227
	Previously	Yes	First 3	20.0	180	25.5	161	−5.5	−1.21	.228
	Previously	No	All	31.2	295	26.4	284	4.8	1.27	.205
	Previously	No	First 3	30.2	295	25.4	284	4.8	1.29	.196
	Intends	Yes	All	22.4	214	28.2	188	−5.8	−1.33	.184
	Intends	Yes	First 3	22.0	214	27.1	188	−5.1	−1.20	.229
	Intends	No	All	31.0	261	24.9	257	6.1	1.55	.120
	Intends	No	First 3	29.9	261	24.1	257	5.8	1.48	.140

Table W41: Study 5: Specified-ingredient comparisons between labeling conditions within subsets defined by previous purchases of, and intent to purchase, each class of product.

Previous purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	almonds [†]	87.9	389	80.8	365	7.1	2.69	.007
		water [†]	64.8	389	65.8	365	-1.0	-0.28	.779
		salt [†]	19.3	389	17.5	365	1.8	0.62	.537
		almond milk [†]	8.2	389	11.0	365	-2.8	-1.28	.202
		milk [†]	9.8	389	7.9	365	1.9	0.88	.379
Yes	First 3	almonds [†]	87.1	389	80.3	365	6.8	2.56	.010
		water [†]	63.8	389	64.4	365	-0.6	-0.18	.857
		almond milk [†]	8.2	389	11.0	365	-2.8	-1.28	.202
		salt [†]	9.3	389	9.6	365	-0.3	-0.16	.875
		milk [†]	9.3	389	7.7	365	1.6	0.78	.436
No	All	almonds [†]	79.3	82	77.4	84	1.9	0.30	.768
		water [†]	48.8	82	51.2	84	-2.4	-0.31	.756
		milk [†]	15.9	82	11.9	84	4.0	0.74	.462
		salt [†]	7.3	82	14.3	84	-7.0	-1.44	.149
		almond milk [†]	13.4	82	11.9	84	1.5	0.29	.770
		oil [†]	11.0	82	1.2	84	9.8	2.65	.008
No	First 3	almonds [†]	79.3	82	77.4	84	1.9	0.30	.768
		water [†]	47.6	82	51.2	84	-3.6	-0.47	.640
		milk [†]	15.9	82	10.7	84	5.2	0.98	.329
		almond milk [†]	13.4	82	11.9	84	1.5	0.29	.770
		oil [†]	9.8	82	1.2	84	8.6	2.44	.015
		almond extract [†]	3.7	82	9.5	84	-5.8	-1.52	.129

Table W42: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for almond milk, within subsets defined by whether participants had previously purchased the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Intend to purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	almonds [†]	89.3	363	82.1	335	7.2	2.71	.007
		water [†]	65.6	363	66.0	335	−0.4	−0.11	.910
		salt [†]	18.2	363	18.8	335	−0.6	−0.21	.832
		milk [†]	10.2	363	9.0	335	1.2	0.55	.579
		almond milk [†]	6.9	363	10.1	335	−3.2	−1.55	.122
Yes	First 3	almonds [†]	88.4	363	82.1	335	6.3	2.37	.018
		water [†]	64.2	363	64.8	335	−0.6	−0.16	.871
		almond milk [†]	6.9	363	10.1	335	−3.2	−1.55	.122
		salt [†]	8.0	363	9.9	335	−1.9	−0.86	.388
		milk [†]	9.6	363	8.7	335	0.9	0.45	.652
No	All	almonds [†]	76.9	108	74.6	114	2.3	0.40	.691
		water [†]	50.0	108	54.4	114	−4.4	−0.65	.513
		almond milk [†]	16.7	108	14.0	114	2.7	0.54	.586
		salt [†]	13.9	108	11.4	114	2.5	0.56	.577
		milk [†]	13.0	108	7.9	114	5.1	1.24	.216
		almond extract [†]	3.7	108	7.9	114	−4.2	−1.33	.184
No	First 3	almonds [†]	76.9	108	72.8	114	4.1	0.69	.488
		water [†]	50.0	108	53.5	114	−3.5	−0.52	.601
		almond milk [†]	16.7	108	14.0	114	2.7	0.54	.586
		milk [†]	13.0	108	7.0	114	6.0	1.48	.138
		salt [†]	9.3	108	8.8	114	0.5	0.13	.899
		almond extract [†]	3.7	108	7.0	114	−3.3	−1.09	.275

Table W43: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for almond milk, within subsets defined by whether participants intended to purchase the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Previous purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	vegetables [†]	52.9	280	50.2	273	2.7	0.63	.529
		soy [†]	45.4	280	46.5	273	-1.1	-0.27	.784
		beans [†]	30.0	280	38.8	273	-8.8	-2.19	.029
		salt [†]	35.7	280	32.6	273	3.1	0.77	.440
		herbs and spices [†]	23.2	280	22.3	273	0.9	0.24	.807
		oil	22.9	280	16.1	273	6.8	2.00	.046
		plant based protein	20.7	280	17.6	273	3.1	0.94	.350
		flour	18.2	280	13.6	273	4.6	1.50	.134
		water	12.9	280	7.0	273	5.9	2.32	.021
		grains	12.1	280	12.8	273	-0.7	-0.24	.809
		bread	11.8	280	5.9	273	5.9	2.45	.014
Yes	First 3	soy [†]	44.6	280	44.7	273	-0.1	-0.01	.991
		vegetables [†]	41.8	280	42.9	273	-1.1	-0.25	.799
		beans [†]	26.8	280	36.6	273	-9.8	-2.49	.013
		plant based protein [†]	19.6	280	15.8	273	3.8	1.20	.231
		salt [†]	17.9	280	15.4	273	2.5	0.78	.435
		oil	16.1	280	10.3	273	5.8	2.02	.043
		flour	15.4	280	10.6	273	4.8	1.65	.098
		grains	8.9	280	12.5	273	-3.6	-1.34	.179
		herbs and spices	10.4	280	9.9	273	0.5	0.18	.856
No	All	vegetables [†]	48.6	181	45.2	188	3.4	0.66	.512
		soy [†]	41.4	181	41.5	188	-0.1	-0.01	.992
		salt [†]	26.0	181	37.8	188	-11.8	-2.43	.015
		beans [†]	19.3	181	27.1	188	-7.8	-1.77	.077
		herbs and spices [†]	13.8	181	20.2	188	-6.4	-1.63	.102
		oil	14.4	181	19.7	188	-5.3	-1.36	.175
		flour	13.3	181	17.0	188	-3.7	-1.01	.314
		plant based protein [†]	14.9	181	12.2	188	2.7	0.75	.452
		bread	11.6	181	6.9	188	4.7	1.56	.120
		water	11.0	181	9.6	188	1.4	0.47	.641
		grains	11.0	181	9.0	188	2.0	0.64	.521
No	First 3	soy [†]	39.8	181	40.4	188	-0.6	-0.13	.899
		vegetables [†]	38.7	181	36.7	188	2.0	0.39	.696
		beans [†]	18.8	181	25.0	188	-6.2	-1.44	.149
		salt [†]	16.6	181	21.8	188	-5.2	-1.28	.202
		flour [†]	11.0	181	14.9	188	-3.9	-1.10	.273
		plant based protein [†]	13.8	181	11.7	188	2.1	0.61	.543
		oil	9.4	181	13.3	188	-3.9	-1.18	.238

Table W44: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for plant burgers, within subsets defined by whether participants had previously purchased the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Intend to purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	vegetables [†]	51.6	254	51.5	235	0.1	0.02	.985
		soy [†]	44.5	254	44.7	235	-0.2	-0.04	.966
		salt [†]	35.8	254	32.8	235	3.0	0.71	.476
		beans [†]	26.0	254	34.5	235	-8.5	-2.04	.041
		oil [†]	24.4	254	14.5	235	9.9	2.77	.006
		herbs and spices [†]	20.9	254	22.6	235	-1.7	-0.45	.651
		plant based protein	21.7	254	17.0	235	4.7	1.29	.196
		flour	17.7	254	16.6	235	1.1	0.33	.743
		water	14.2	254	8.9	235	5.3	1.80	.071
		grains	10.6	254	13.2	235	-2.6	-0.88	.381
		bread	12.6	254	5.1	235	7.5	2.89	.004
Yes	First 3	vegetables [†]	39.0	254	44.3	235	-5.3	-1.18	.237
		soy [†]	43.7	254	42.1	235	1.6	0.35	.725
		beans [†]	23.6	254	32.8	235	-9.2	-2.25	.024
		plant based protein [†]	20.5	254	16.2	235	4.3	1.23	.220
		salt [†]	19.3	254	15.7	235	3.6	1.03	.303
		oil	17.7	254	10.6	235	7.1	2.23	.026
		flour	15.0	254	13.2	235	1.8	0.56	.574
		grains	8.7	254	13.2	235	-4.5	-1.61	.107
No	All	vegetables [†]	50.7	207	44.7	226	6.0	1.26	.209
		soy [†]	43.0	207	44.2	226	-1.2	-0.26	.793
		salt [†]	27.1	207	36.7	226	-9.6	-2.15	.031
		beans [†]	25.6	207	33.6	226	-8.0	-1.82	.068
		oil [†]	13.5	207	20.8	226	-7.3	-2.00	.046
		herbs and spices [†]	17.9	207	20.4	226	-2.5	-0.65	.513
		plant based protein	14.5	207	13.7	226	0.8	0.23	.817
		flour	14.5	207	13.3	226	1.2	0.37	.714
		grains	13.0	207	9.3	226	3.7	1.24	.214
		bread	10.6	207	7.5	226	3.1	1.13	.259
No	First 3	soy [†]	41.5	207	43.8	226	-2.3	-0.47	.635
		vegetables [†]	42.5	207	36.3	226	6.2	1.33	.185
		beans [†]	23.7	207	31.0	226	-7.3	-1.70	.089
		salt [†]	15.0	207	20.4	226	-5.4	-1.46	.144
		plant based protein [†]	13.5	207	11.9	226	1.6	0.49	.622
		oil [†]	8.2	207	12.4	226	-4.2	-1.42	.155
		flour	12.1	207	11.5	226	0.6	0.18	.853

Table W45: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for plant burgers, within subsets defined by whether participants intended to purchase the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Previous purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	cauliflower [†]	97.0	266	97.7	265	-0.7	-0.53	.593
		herbs and spices [†]	82.0	266	83.8	265	-1.8	-0.56	.578
		salt [†]	34.6	266	44.5	265	-9.9	-2.34	.019
		rice [†]	15.0	266	0.4	265	14.6	6.33	<.001
		oil [†]	13.9	266	8.7	265	5.2	1.90	.057
		garlic [†]	11.7	266	9.4	265	2.3	0.83	.405
		water	10.2	266	6.8	265	3.4	1.39	.165
Yes	First 3	cauliflower [†]	96.6	266	97.7	265	-1.1	-0.78	.436
		herbs and spices [†]	72.2	266	77.4	265	-5.2	-1.37	.170
		salt [†]	22.6	266	34.0	265	-11.4	-2.92	.004
		rice [†]	15.0	266	0.4	265	14.6	6.33	<.001
		water [†]	9.0	266	6.0	265	3.0	1.30	.193
		oil [†]	8.6	266	6.8	265	1.8	0.80	.424
No	All	cauliflower [†]	91.2	205	98.9	185	-7.7	-3.44	<.001
		herbs and spices [†]	72.7	205	83.2	185	-10.5	-2.50	.012
		salt [†]	38.5	205	34.6	185	3.9	0.81	.420
		rice [†]	30.2	205	0.0	185	30.2	8.16	<.001
		water [†]	8.3	205	4.9	185	3.4	1.36	.175
		garlic [†]	3.9	205	7.6	185	-3.7	-1.57	.117
		onions [†]	7.3	205	5.4	185	1.9	0.77	.442
No	First 3	cauliflower [†]	91.2	205	98.9	185	-7.7	-3.44	<.001
		herbs and spices [†]	62.9	205	78.9	185	-16.0	-3.46	<.001
		rice [†]	29.8	205	0.0	185	29.8	8.08	<.001
		salt [†]	29.3	205	25.4	185	3.9	0.85	.393
		water [†]	6.8	205	3.8	185	3.0	1.33	.183
		garlic [†]	2.4	205	5.4	185	-3.0	-1.52	.128
		onions [†]	3.4	205	3.8	185	-0.4	-0.20	.845

Table W46: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for cauliflower rice, within subsets defined by whether participants had previously purchased the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Intend to purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	cauliflower [†]	96.2	288	97.8	271	-1.6	-1.10	.269
		herbs and spices [†]	80.2	288	83.0	271	-2.8	-0.86	.390
		salt [†]	35.1	288	45.8	271	-10.7	-2.58	.010
		rice [†]	19.1	288	0.4	271	18.7	7.37	<.001
		oil [†]	11.8	288	8.1	271	3.7	1.45	.147
		garlic [†]	9.7	288	9.6	271	0.1	0.05	.959
Yes	First 3	cauliflower [†]	96.2	288	97.8	271	-1.6	-1.10	.269
		herbs and spices [†]	69.8	288	77.5	271	-7.7	-2.06	.039
		salt [†]	25.0	288	35.4	271	-10.4	-2.69	.007
		rice [†]	19.1	288	0.4	271	18.7	7.37	<.001
		water [†]	7.6	288	6.3	271	1.3	0.63	.526
		oil [†]	7.3	288	6.3	271	1.0	0.48	.633
No	All	cauliflower [†]	91.8	183	98.9	179	-7.1	-3.18	.001
		herbs and spices [†]	74.3	183	84.4	179	-10.1	-2.36	.018
		salt [†]	38.3	183	32.4	179	5.9	1.16	.244
		rice [†]	25.7	183	0.0	179	25.7	7.27	<.001
		water [†]	10.9	183	3.9	179	7.0	2.54	.011
		garlic [†]	6.0	183	7.3	179	-1.3	-0.48	.632
No	First 3	butter [†]	2.7	183	6.1	179	-3.4	-1.58	.114
		cauliflower [†]	91.3	183	98.9	179	-7.6	-3.34	<.001
		herbs and spices [†]	65.6	183	78.8	179	-13.2	-2.80	.005
		salt [†]	26.2	183	22.9	179	3.3	0.73	.463
		rice [†]	25.1	183	0.0	179	25.1	7.18	<.001
		water [†]	8.7	183	3.4	179	5.3	2.15	.032
		garlic [†]	4.4	183	5.6	179	-1.2	-0.53	.595
		butter [†]	2.2	183	4.5	179	-2.3	-1.21	.225

Table W47: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for cauliflower rice, within subsets defined by whether participants intended to purchase the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Previous purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	oil [†]	60.9	128	58.0	131	2.9	0.48	.632
		salt [†]	50.0	128	41.2	131	8.8	1.42	.156
		vinegar [†]	30.5	128	20.6	131	9.9	1.82	.069
		water [†]	25.8	128	23.7	131	2.1	0.39	.693
		dairy substitute [†]	19.5	128	11.5	131	8.0	1.80	.072
		tofu [†]	15.6	128	17.6	131	-2.0	-0.42	.676
		lemon	15.6	128	9.9	131	5.7	1.38	.169
		eggs	15.6	128	8.4	131	7.2	1.79	.073
		nuts	3.9	128	14.5	131	-10.6	-2.94	.003
		herbs and spices	5.5	128	12.2	131	-6.7	-1.91	.056
		mustard	10.2	128	6.1	131	4.1	1.19	.233
Yes	First 3	oil [†]	58.6	128	56.5	131	2.1	0.34	.732
		salt [†]	22.7	128	26.7	131	-4.0	-0.76	.449
		vinegar [†]	25.0	128	12.2	131	12.8	2.65	.008
		water [†]	22.7	128	22.1	131	0.6	0.10	.920
		dairy substitute [†]	18.8	128	11.5	131	7.3	1.64	.101
		tofu [†]	14.1	128	17.6	131	-3.5	-0.77	.441
		eggs	14.1	128	7.6	131	6.5	1.67	.096
		nuts [†]	3.9	128	13.7	131	-9.8	-2.78	.005
No	All	oil [†]	63.9	327	59.6	332	4.3	1.13	.259
		salt [†]	35.8	327	35.8	332	0.0	-0.02	.986
		vinegar [†]	20.8	327	11.1	332	9.7	3.38	<.001
		eggs [†]	18.7	327	13.0	332	5.7	2.01	.045
		tofu [†]	17.7	327	16.6	332	1.1	0.40	.690
		water [†]	16.2	327	17.2	332	-1.0	-0.33	.741
		dairy substitute [†]	13.5	327	16.0	332	-2.5	-0.91	.364
		egg substitute	11.6	327	6.3	332	5.3	2.38	.017
No	First 3	oil [†]	62.7	327	57.2	332	5.5	1.43	.153
		salt [†]	23.5	327	24.1	332	-0.6	-0.17	.869
		eggs [†]	18.7	327	12.7	332	6.0	2.12	.034
		tofu [†]	16.8	327	15.7	332	1.1	0.40	.687
		vinegar [†]	16.8	327	9.3	332	7.5	2.85	.004
		water [†]	15.3	327	15.7	332	-0.4	-0.13	.895
		dairy substitute [†]	13.5	327	15.4	332	-1.9	-0.70	.486
		egg substitute	11.3	327	6.3	332	5.0	2.26	.024

Table W48: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for vegan mayo, within subsets defined by whether participants had previously purchased the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Intend to purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	oil [†]	60.2	171	57.8	166	2.4	0.45	.654
		salt [†]	46.8	171	38.6	166	8.2	1.53	.127
		vinegar [†]	25.7	171	16.3	166	9.4	2.13	.033
		water [†]	23.4	171	21.1	166	2.3	0.51	.611
		eggs [†]	19.9	171	10.2	166	9.7	2.47	.014
		dairy substitute	17.0	171	13.3	166	3.7	0.95	.343
		tofu [†]	14.6	171	16.3	166	-1.7	-0.42	.676
		lemon	14.0	171	8.4	166	5.6	1.63	.104
		nuts	2.3	171	12.0	166	-9.7	-3.46	<.001
		plants	6.4	171	11.4	166	-5.0	-1.62	.106
Yes	First 3	oil [†]	58.5	171	54.8	166	3.7	0.68	.498
		salt [†]	22.8	171	27.1	166	-4.3	-0.91	.361
		water [†]	21.1	171	18.7	166	2.4	0.55	.584
		vinegar [†]	20.5	171	10.8	166	9.7	2.43	.015
		eggs [†]	18.7	171	9.6	166	9.1	2.38	.017
		dairy substitute [†]	16.4	171	13.3	166	3.1	0.81	.420
		tofu [†]	12.9	171	16.3	166	-3.4	-0.89	.376
		nuts	2.3	171	10.8	166	-8.5	-3.16	.002
No	All	oil [†]	64.8	284	59.9	297	4.9	1.21	.227
		salt [†]	35.6	284	36.7	297	-1.1	-0.29	.776
		vinegar [†]	22.2	284	12.5	297	9.7	3.10	.002
		tofu [†]	18.7	284	17.2	297	1.5	0.47	.640
		water [†]	16.2	284	17.8	297	-1.6	-0.53	.597
		eggs [†]	16.5	284	12.5	297	4.0	1.40	.161
		dairy substitute [†]	14.1	284	15.5	297	-1.4	-0.48	.634
		egg substitute	12.0	284	5.7	297	6.3	2.66	.008
No	First 3	oil [†]	63.4	284	58.2	297	5.2	1.27	.205
		salt [†]	23.6	284	23.6	297	0.0	0.01	.995
		vinegar [†]	18.3	284	9.8	297	8.5	2.97	.003
		tofu [†]	18.0	284	16.2	297	1.8	0.58	.565
		water [†]	15.1	284	16.8	297	-1.7	-0.56	.578
		eggs [†]	16.5	284	12.1	297	4.4	1.52	.127
		dairy substitute [†]	14.1	284	14.8	297	-0.7	-0.25	.802
		egg substitute	11.3	284	5.7	297	5.6	2.40	.016

Table W49: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for vegan mayo, within subsets defined by whether participants intended to purchase the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Previous purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	vanilla [†]	79.4	180	68.3	161	11.1	2.34	.019
		dairy substitute [†]	63.3	180	55.3	161	8.0	1.51	.130
		dairy [†]	20.6	180	26.1	161	-5.5	-1.21	.227
		salt [†]	21.1	180	16.8	161	4.3	1.02	.308
		water [†]	16.7	180	14.9	161	1.8	0.44	.657
		oil	13.3	180	10.6	161	2.7	0.79	.432
		soy	8.9	180	11.2	161	-2.3	-0.70	.481
Yes	First 3	dairy substitute [†]	62.8	180	54.0	161	8.8	1.64	.102
		vanilla [†]	50.6	180	48.4	161	2.2	0.39	.697
		dairy [†]	20.0	180	25.5	161	-5.5	-1.21	.228
		water [†]	14.4	180	12.4	161	2.0	0.55	.585
		soy [†]	7.2	180	10.6	161	-3.4	-1.09	.277
No	All	vanilla [†]	71.2	295	67.6	284	3.6	0.93	.350
		dairy substitute [†]	50.5	295	48.2	284	2.3	0.55	.585
		dairy [†]	31.2	295	26.4	284	4.8	1.27	.205
		salt [†]	14.2	295	17.6	284	-3.4	-1.11	.268
		water [†]	13.2	295	12.7	284	0.5	0.19	.845
		soy [†]	8.8	295	12.7	284	-3.9	-1.50	.133
		oil	8.1	295	12.7	284	-4.6	-1.79	.073
No	First 3	vanilla [†]	54.6	295	54.9	284	-0.3	-0.09	.932
		dairy substitute [†]	48.8	295	46.8	284	2.0	0.48	.633
		dairy [†]	30.2	295	25.4	284	4.8	1.29	.196
		soy [†]	8.8	295	12.7	284	-3.9	-1.50	.133
		oil [†]	7.1	295	11.3	284	-4.2	-1.73	.084
		water [†]	11.2	295	10.9	284	0.3	0.10	.917

Table W50: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for vegan ice cream, within subsets defined by whether participants had previously purchased the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

Intend to purchase	Positions	Ingredient	Treat. %	Treat. N	Control %	Control N	Diff.	z	p
Yes	All	vanilla [†]	78.0	214	67.6	188	10.4	2.37	.018
		dairy substitute [†]	62.6	214	53.7	188	8.9	1.81	.071
		dairy [†]	22.4	214	28.2	188	-5.8	-1.33	.184
		salt [†]	20.6	214	18.1	188	2.5	0.63	.531
		water [†]	16.4	214	13.8	188	2.6	0.70	.481
		oil	12.6	214	10.1	188	2.5	0.79	.430
Yes	First 3	dairy substitute [†]	61.7	214	52.1	188	9.6	1.93	.053
		vanilla [†]	52.8	214	53.2	188	-0.4	-0.08	.938
		dairy [†]	22.0	214	27.1	188	-5.1	-1.20	.229
		water [†]	14.0	214	12.2	188	1.8	0.53	.598
		soy [†]	6.1	214	9.6	188	-3.5	-1.31	.189
		oil [†]	7.9	214	8.5	188	-0.6	-0.21	.836
No	All	vanilla [†]	71.3	261	68.1	257	3.2	0.79	.432
		dairy substitute [†]	49.4	261	48.6	257	0.8	0.18	.858
		dairy [†]	31.0	261	24.9	257	6.1	1.55	.120
		salt [†]	13.8	261	16.7	257	-2.9	-0.93	.352
		soy [†]	10.0	261	14.0	257	-4.0	-1.42	.156
		water [†]	13.0	261	13.2	257	-0.2	-0.07	.946
No	First 3	oil	8.0	261	13.2	257	-5.2	-1.91	.056
		vanilla [†]	53.3	261	52.1	257	1.2	0.25	.799
		dairy substitute [†]	47.9	261	47.5	257	0.4	0.10	.923
		dairy [†]	29.9	261	24.1	257	5.8	1.48	.140
		soy [†]	10.0	261	13.6	257	-3.6	-1.29	.197
		oil [†]	6.1	261	11.7	257	-5.6	-2.22	.027
		water [†]	11.1	261	10.9	257	0.2	0.08	.937

Table W51: Study 5: Comparisons between labeling conditions in the percentage of participants listing each ingredient for vegan ice cream, within subsets defined by whether participants intended to purchase the product class. Ingredients are included if listed by at least 10% of participants in either condition within a subset or if among the five most frequently listed in either condition; [†] marks the five most frequently listed. Ingredient selections were re-computed within each subset.

WEB APPENDIX D: SIMULATED CHOICE STUDY



Figure W21: Study 6: Subset of products presented to participants showing both the treatment and control label products and the alternative choice option that they were paired with. The plant-based burgers / patties were the same as the ingredient listing survey, as were the cauliflower rice / finely chopped cauliflower. The almond milk / drink were also the same as the ingredient listing survey, but were marked as unfortified. The vegan mayonnaise / creamy vegan spread and the vegan ice cream / desert were also the same. For the vegan mayo products, hot sauce was the alternative choice option and for the vegan ice cream products, gelato was the alternative choice option.

We computed various pre-registered positive controls separately for each condition. First, within each product, we contrasted participant estimates of calories versus fat for all products except broccoli rice and cauliflower rice. For those two products, we compared calories versus fiber. Second, across products, we compared protein estimates for plant-based burgers versus oat milk, almond milk, vegan ice cream, and vegan mayo. We also compared fiber estimates for cauliflower rice versus vegan mayo and broccoli rice versus vegan mayo. Third, across

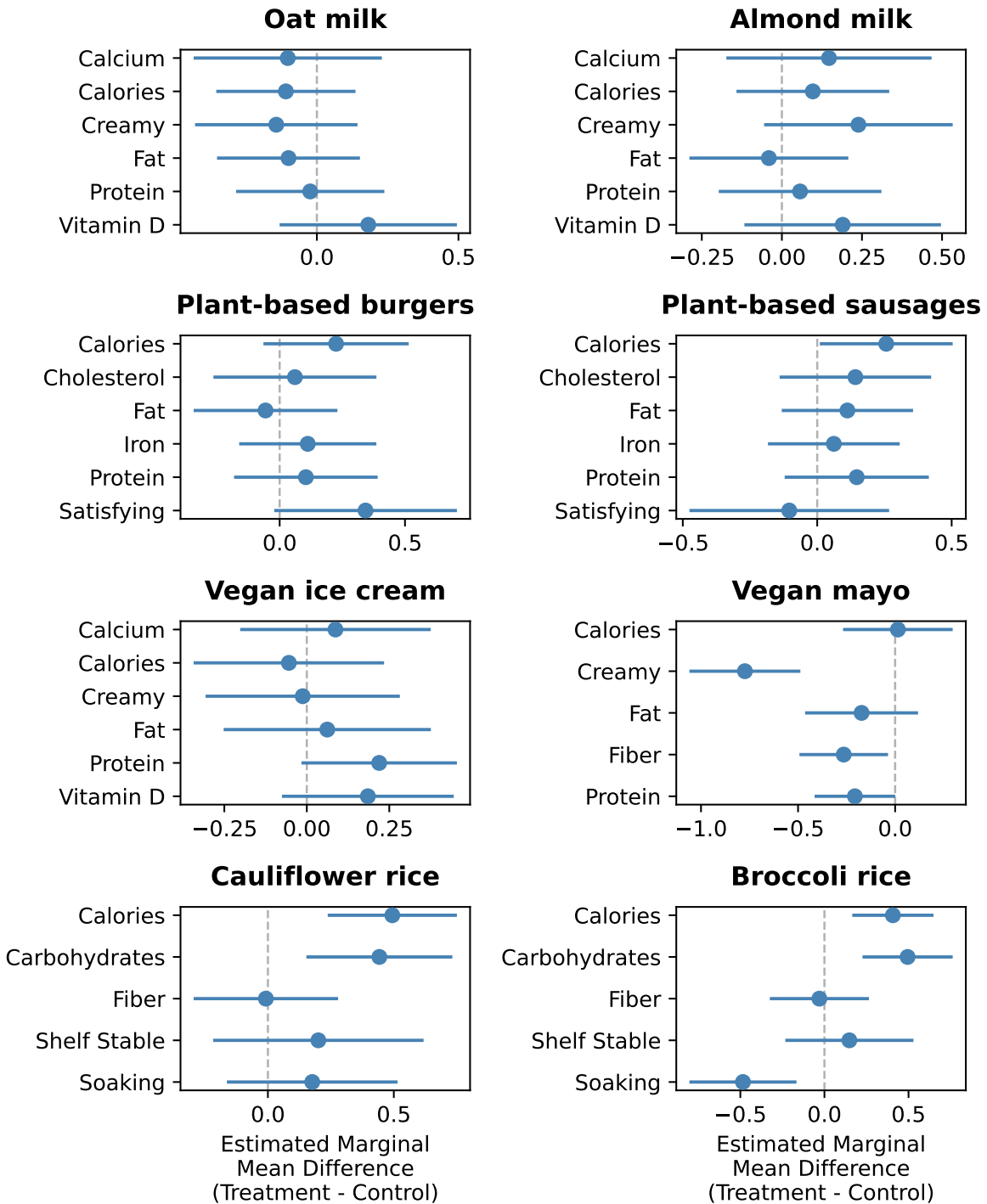


Figure W22: Study 6: Treatment effects by product and property for participants who passed the two attention checks.

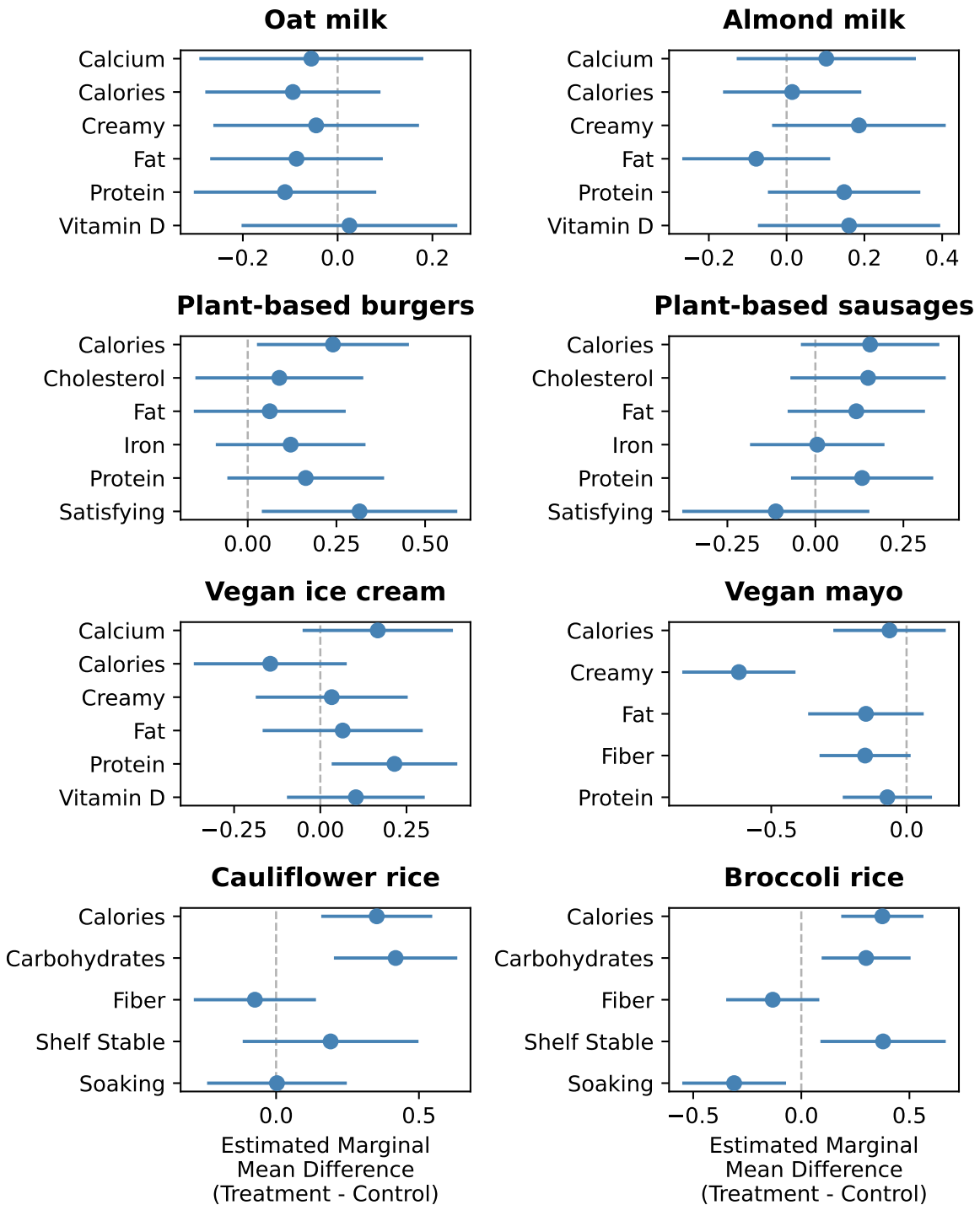


Figure W23: Study 6: Treatment effects by product and property for participants, whether or not they failed the two attention checks.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	0.15	0.90	-0.17	0.47	.368	.640
Almond milk	Calories	0.10	0.79	-0.14	0.34	.427	.640
Almond milk	Creamy	0.24	1.59	-0.06	0.53	.112	.640
Almond milk	Fat	-0.04	-0.32	-0.29	0.21	.748	.748
Almond milk	Protein	0.06	0.44	-0.20	0.31	.661	.748
Almond milk	Vitamin D	0.19	1.21	-0.12	0.50	.225	.640
Oat milk	Calcium	-0.10	-0.61	-0.44	0.23	.544	.653
Oat milk	Calories	-0.11	-0.87	-0.36	0.14	.383	.653
Oat milk	Creamy	-0.14	-0.98	-0.43	0.14	.327	.653
Oat milk	Fat	-0.10	-0.78	-0.35	0.15	.436	.653
Oat milk	Protein	-0.02	-0.18	-0.29	0.24	.861	.861
Oat milk	Vitamin D	0.18	1.14	-0.13	0.49	.256	.653
Broccoli rice	Calories	0.41	3.30	0.17	0.65	.001	.002
Broccoli rice	Carbohydrates	0.49	3.61	0.23	0.76	<.001	.002
Broccoli rice	Fiber	-0.03	-0.20	-0.32	0.26	.841	.841
Broccoli rice	Shelf stable	0.15	0.76	-0.23	0.53	.446	.557
Broccoli rice	Soaking	-0.48	-2.98	-0.80	-0.17	.003	.005
Cauliflower rice	Calories	0.49	3.78	0.24	0.75	<.001	.001
Cauliflower rice	Carbohydrates	0.44	2.99	0.15	0.73	.003	.007
Cauliflower rice	Fiber	-0.01	-0.05	-0.29	0.28	.956	.956
Cauliflower rice	Shelf stable	0.20	0.94	-0.22	0.62	.347	.434
Cauliflower rice	Soaking	0.18	1.02	-0.16	0.52	.308	.434
Plant-based burgers	Calories	0.23	1.52	-0.06	0.51	.128	.384
Plant-based burgers	Cholesterol	0.06	0.37	-0.26	0.39	.714	.714
Plant-based burgers	Fat	-0.06	-0.39	-0.34	0.23	.700	.714
Plant-based burgers	Iron	0.11	0.80	-0.16	0.39	.422	.711
Plant-based burgers	Protein	0.10	0.72	-0.18	0.39	.474	.711
Plant-based burgers	Satisfying	0.34	1.84	-0.02	0.71	.065	.384
Plant-based sausages	Calories	0.26	2.04	0.01	0.50	.042	.251
Plant-based sausages	Cholesterol	0.14	0.99	-0.14	0.42	.323	.552
Plant-based sausages	Fat	0.11	0.90	-0.13	0.36	.368	.552
Plant-based sausages	Iron	0.06	0.49	-0.18	0.31	.621	.621
Plant-based sausages	Protein	0.15	1.07	-0.12	0.42	.283	.552
Plant-based sausages	Satisfying	-0.10	-0.55	-0.48	0.27	.583	.621
Vegan ice cream	Calcium	0.09	0.59	-0.20	0.38	.556	.854
Vegan ice cream	Calories	-0.05	-0.37	-0.34	0.23	.712	.854
Vegan ice cream	Creamy	-0.01	-0.08	-0.31	0.28	.934	.934
Vegan ice cream	Fat	0.06	0.39	-0.25	0.38	.699	.854
Vegan ice cream	Protein	0.22	1.82	-0.02	0.45	.068	.408
Vegan ice cream	Vitamin D	0.19	1.39	-0.08	0.45	.164	.491
Vegan mayo	Calories	0.01	0.10	-0.27	0.30	.922	.922
Vegan mayo	Creamy	-0.77	-5.31	-1.06	-0.49	<.001	<.001
Vegan mayo	Fat	-0.17	-1.16	-0.46	0.12	.244	.305
Vegan mayo	Fiber	-0.26	-2.27	-0.49	-0.04	.023	.057
Vegan mayo	Protein	-0.21	-1.96	-0.41	0.00	.050	.084

Table W52: Study 6: Treatment effects by product and property for participants who passed the two attention checks.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	0.10	0.87	-0.13	0.33	.385	.505
Almond milk	Calories	0.01	0.16	-0.16	0.19	.875	.875
Almond milk	Creamy	0.19	1.63	-0.04	0.41	.103	.359
Almond milk	Fat	-0.08	-0.81	-0.27	0.11	.421	.505
Almond milk	Protein	0.15	1.48	-0.05	0.34	.139	.359
Almond milk	Vitamin D	0.16	1.34	-0.07	0.39	.179	.359
Oat milk	Calcium	-0.06	-0.46	-0.29	0.18	.645	.819
Oat milk	Calories	-0.09	-1.0	-0.28	0.09	.317	.700
Oat milk	Creamy	-0.05	-0.41	-0.26	0.17	.682	.819
Oat milk	Fat	-0.09	-0.93	-0.27	0.1	.350	.700
Oat milk	Protein	-0.11	-1.13	-0.3	0.08	.258	.700
Oat milk	Vitamin D	0.02	0.21	-0.2	0.25	.830	.830
Broccoli rice	Calories	0.37	3.86	0.18	0.56	<.001	.001
Broccoli rice	Carbohydrates	0.30	2.86	0.09	0.51	.004	.011
Broccoli rice	Fiber	-0.13	-1.2	-0.35	0.08	.229	.229
Broccoli rice	Shelf stable	0.38	2.56	0.09	0.67	.011	.014
Broccoli rice	Soaking	-0.31	-2.54	-0.55	-0.07	.011	.014
Cauliflower rice	Calories	0.35	3.55	0.16	0.55	<.001	.001
Cauliflower rice	Carbohydrates	0.42	3.8	0.2	0.63	<.001	.001
Cauliflower rice	Fiber	-0.07	-0.68	-0.29	0.14	.496	.620
Cauliflower rice	Shelf stable	0.19	1.22	-0.12	0.5	.224	.374
Cauliflower rice	Soaking	0.00	0.02	-0.24	0.25	.981	.981
Plant-based burgers	Calories	0.24	2.2	0.03	0.45	.028	.084
Plant-based burgers	Cholesterol	0.09	0.74	-0.15	0.33	.461	.553
Plant-based burgers	Fat	0.06	0.57	-0.15	0.28	.570	.570
Plant-based burgers	Iron	0.12	1.12	-0.09	0.33	.261	.392
Plant-based burgers	Protein	0.16	1.45	-0.06	0.38	.147	.294
Plant-based burgers	Satisfying	0.32	2.24	0.04	0.59	.025	.084
Plant-based sausages	Calories	0.16	1.55	-0.04	0.35	.121	.364
Plant-based sausages	Cholesterol	0.15	1.33	-0.07	0.37	.184	.364
Plant-based sausages	Fat	0.12	1.17	-0.08	0.31	.243	.364
Plant-based sausages	Iron	0.01	0.05	-0.19	0.2	.956	.956
Plant-based sausages	Protein	0.13	1.29	-0.07	0.33	.198	.364
Plant-based sausages	Satisfying	-0.11	-0.83	-0.38	0.15	.407	.488
Vegan ice cream	Calcium	0.17	1.5	-0.05	0.38	.134	.399
Vegan ice cream	Calories	-0.15	-1.28	-0.37	0.08	.200	.399
Vegan ice cream	Creamy	0.03	0.29	-0.19	0.25	.768	.768
Vegan ice cream	Fat	0.06	0.55	-0.17	0.3	.584	.700
Vegan ice cream	Protein	0.22	2.31	0.03	0.4	.021	.124
Vegan ice cream	Vitamin D	0.10	1.01	-0.1	0.3	.312	.468
Vegan mayo	Calories	-0.06	-0.59	-0.27	0.14	.553	.553
Vegan mayo	Creamy	-0.62	-5.8	-0.83	-0.41	<.001	<.001
Vegan mayo	Fat	-0.15	-1.38	-0.36	0.06	.168	.280
Vegan mayo	Fiber	-0.15	-1.78	-0.32	0.02	.074	.186
Vegan mayo	Protein	-0.07	-0.84	-0.24	0.09	.399	.499

Table W53: Study 6: Treatment effects by product and property for participants, whether or not they failed the two attention checks.

Product	Property	U	Unadj. p	Adj. p
Almond milk	Calcium	20154.5	.276	.514
Almond milk	Calories	19620.0	.541	.650
Almond milk	Creamy	20639.5	.124	.407
Almond milk	Fat	18963.0	1.000	1.000
Almond milk	Protein	19984.5	.342	.514
Almond milk	Vitamin D	20588.5	.136	.407
Oat milk	Calcium	16362.5	.414	.621
Oat milk	Calories	16307.5	.375	.621
Oat milk	Creamy	16063.0	.264	.621
Oat milk	Fat	16553.5	.523	.627
Oat milk	Protein	16996.0	.842	.842
Oat milk	Vitamin D	18422.5	.228	.621
Broccoli rice	Calories	22423.5	<.001	.001
Broccoli rice	Carbohydrates	22317.0	<.001	.001
Broccoli rice	Fiber	18337.5	.803	.803
Broccoli rice	Shelf stable	19466.0	.422	.527
Broccoli rice	Soaking	15273.0	.002	.003
Cauliflower rice	Calories	21674.0	<.001	<.001
Cauliflower rice	Carbohydrates	20287.0	.006	.015
Cauliflower rice	Fiber	17585.0	.910	.910
Cauliflower rice	Shelf stable	18506.5	.310	.387
Cauliflower rice	Soaking	18638.0	.258	.387
Plant-based burgers	Calories	18131.5	.169	.507
Plant-based burgers	Cholesterol	17021.5	.801	.864
Plant-based burgers	Fat	16601.0	.864	.864
Plant-based burgers	Iron	17444.0	.495	.743
Plant-based burgers	Protein	17631.0	.386	.743
Plant-based burgers	Satisfying	18617.5	.064	.383
Plant-based sausages	Calories	21527.0	.059	.353
Plant-based sausages	Cholesterol	20579.0	.308	.513
Plant-based sausages	Fat	20903.0	.186	.513
Plant-based sausages	Iron	20195.5	.495	.594
Plant-based sausages	Protein	20500.5	.342	.513
Plant-based sausages	Satisfying	18925.5	.641	.641
Vegan ice cream	Calcium	18915.0	.710	.930
Vegan ice cream	Calories	18213.0	.775	.930
Vegan ice cream	Creamy	18456.5	.955	.955
Vegan ice cream	Fat	19142.5	.560	.930
Vegan ice cream	Protein	20343.5	.082	.494
Vegan ice cream	Vitamin D	19704.5	.261	.784
Vegan mayo	Calories	17999.5	.641	.641
Vegan mayo	Creamy	12236.0	<.001	<.001
Vegan mayo	Fat	16648.5	.397	.496
Vegan mayo	Fiber	15389.0	.022	.056
Vegan mayo	Protein	15961.0	.112	.186

Table W54: Study 6: Mann–Whitney tests comparing treatment versus control for each product and property, among participants who passed the attention checks. Corrections for multiple comparisons were applied within products.

products we compared calorie estimates for plant-based burgers versus all other products (except plant-based sausages and vegan ice cream), plant-based sausages versus all other products (except plant-based burgers and vegan ice cream), and vegan ice cream versus all other products (except the aforementioned). We corrected for multiple comparisons within each condition within each set of contrasts.

Figure W24 shows the set of positive controls. Tables W55–W60 show the positive controls, including Mann-Whitney tests of each.

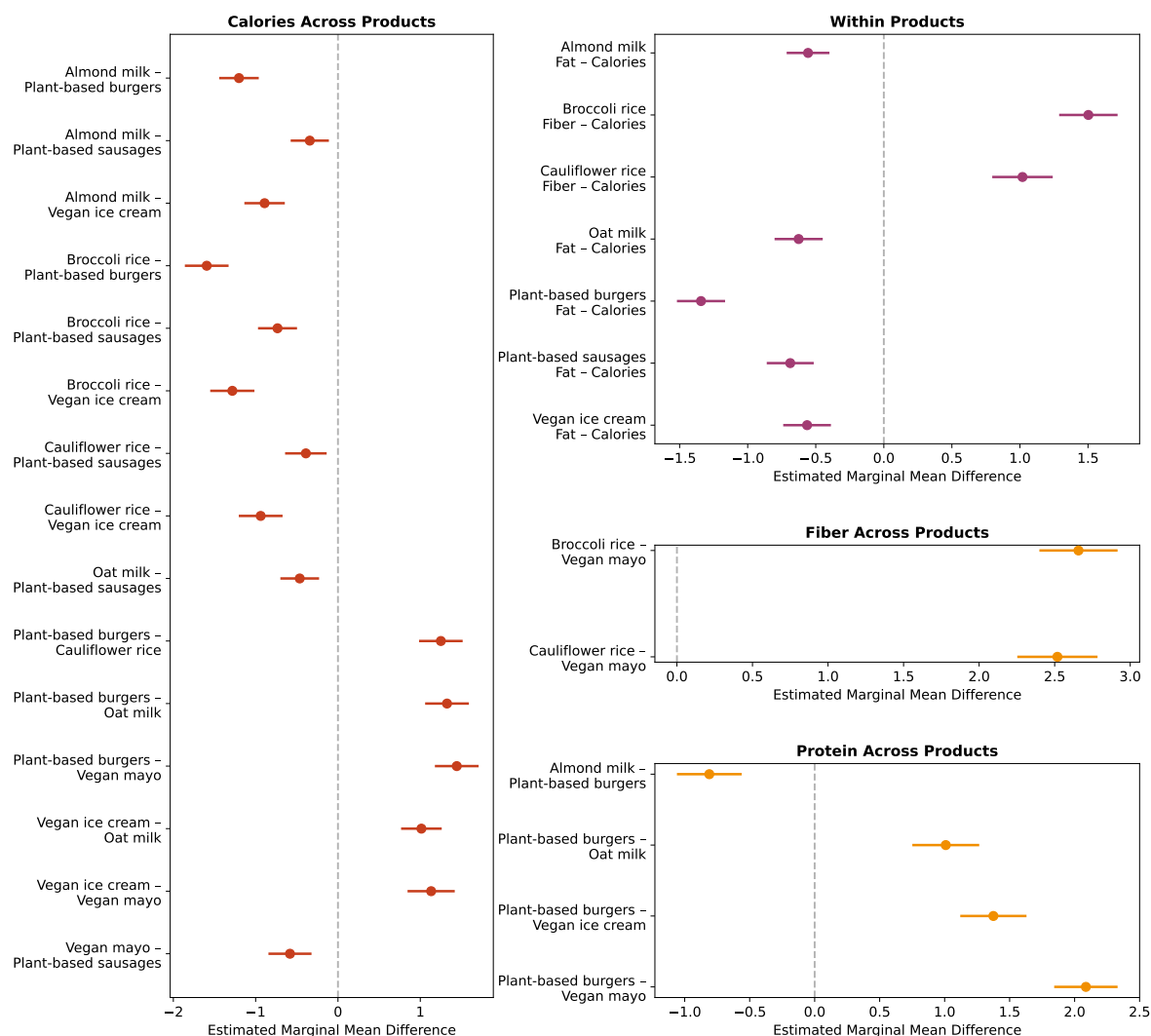


Figure W24: Study 6: Positive controls on responses in the treatment condition.

Condition	Product	Contrast	Estimate	SE	Lower CI	Upper CI	t-ratio	Unadj. p	Adj. p
Control	Almond milk	Fat – Calories	-0.42	0.08	-0.58	-0.26	-5.17	<.001	<.001
Control	Oat milk	Fat – Calories	-0.64	0.08	-0.79	-0.48	-7.99	<.001	<.001
Control	Broccoli rice	Fiber – Calories	1.94	0.11	1.73	2.15	18.2	<.001	<.001
Control	Cauliflower rice	Fiber – Calories	1.52	0.1	1.33	1.71	15.41	<.001	<.001
Control	Plant-based burgers	Fat – Calories	-1.06	0.1	-1.25	-0.87	-10.88	<.001	<.001
Control	Plant-based sausages	Fat – Calories	-0.54	0.08	-0.7	-0.38	-6.67	<.001	<.001
Control	Vegan ice cream	Fat – Calories	-0.68	0.09	-0.86	-0.5	-7.3	<.001	<.001
Treatment	Almond milk	Fat – Calories	-0.56	0.08	-0.71	-0.4	-6.95	<.001	<.001
Treatment	Oat milk	Fat – Calories	-0.63	0.09	-0.8	-0.45	-6.93	<.001	<.001
Treatment	Broccoli rice	Fiber – Calories	1.5	0.11	1.29	1.72	13.72	<.001	<.001
Treatment	Cauliflower rice	Fiber – Calories	1.02	0.11	0.8	1.24	8.98	<.001	<.001
Treatment	Plant-based burgers	Fat – Calories	-1.34	0.09	-1.52	-1.17	-14.88	<.001	<.001
Treatment	Plant-based sausages	Fat – Calories	-0.69	0.09	-0.86	-0.51	-7.81	<.001	<.001
Treatment	Vegan ice cream	Fat – Calories	-0.56	0.09	-0.74	-0.39	-6.31	<.001	<.001

Table W55: Study 6: Positive controls: within-product comparisons, specifically calories versus fat for some products and calories versus fiber for the others. Corrections for multiple comparisons were applied within condition.

Condition	Contrast	Estimate	SE	Lower CI	Upper CI	t-ratio	Unadj. p	Adj. p
Control	Protein: Almond milk – Plant-based burgers	-0.76	0.12	-1.0	-0.53	-6.34	<.001	<.001
Control	Fiber: Broccoli rice – Vegan mayo	2.42	0.13	2.17	2.68	18.77	<.001	<.001
Control	Protein: Plant-based burgers – Vegan ice cream	1.49	0.12	1.26	1.72	12.54	<.001	<.001
Control	Protein: Plant-based burgers – Vegan mayo	1.77	0.11	1.56	1.99	16.19	<.001	<.001
Control	Protein: Plant-based burgers – Oat milk	0.88	0.12	0.64	1.12	7.18	<.001	<.001
Control	Fiber: Cauliflower rice – Vegan mayo	2.26	0.11	2.04	2.48	20.08	<.001	<.001
Treatment	Protein: Almond milk – Plant-based burgers	-0.81	0.13	-1.06	-0.56	-6.38	<.001	<.001
Treatment	Fiber: Broccoli rice – Vegan mayo	2.66	0.13	2.4	2.92	20.13	<.001	<.001
Treatment	Protein: Plant-based burgers – Vegan ice cream	1.37	0.13	1.12	1.63	10.58	<.001	<.001
Treatment	Protein: Plant-based burgers – Vegan mayo	2.09	0.12	1.84	2.33	16.77	<.001	<.001
Treatment	Protein: Plant-based burgers – Oat milk	1.01	0.13	0.75	1.27	7.68	<.001	<.001
Treatment	Fiber: Cauliflower rice – Vegan mayo	2.52	0.14	2.25	2.78	18.59	<.001	<.001

Table W56: Study 6: Positive controls: across-product comparisons, specifically protein estimates for some products and fiber estimates for others. Corrections for multiple comparisons were applied within condition.

Condition	Contrast	Estimate	SE	Lower CI	Upper CI	t-ratio	Unadj. p	Adj. p
Control	Almond milk – Plant-based burgers	-1.07	0.11	-1.29	-0.86	-9.71	<.001	<.001
Control	Almond milk – Vegan ice cream	-1.04	0.12	-1.28	-0.81	-8.66	<.001	<.001
Control	Almond milk – Plant-based sausages	-0.18	0.1	-0.39	0.02	-1.75	.081	.087
Control	Broccoli rice – Plant-based burgers	-1.78	0.12	-2.01	-1.54	-14.84	<.001	<.001
Control	Broccoli rice – Vegan ice cream	-1.74	0.13	-2.0	-1.49	-13.27	<.001	<.001
Control	Broccoli rice – Plant-based sausages	-0.88	0.11	-1.09	-0.68	-8.36	<.001	<.001
Control	Plant-based burgers – Cauliflower rice	1.52	0.12	1.29	1.75	13.01	<.001	<.001
Control	Plant-based burgers – Vegan mayo	1.23	0.13	0.98	1.48	9.62	<.001	<.001
Control	Plant-based burgers – Oat milk	0.99	0.12	0.76	1.22	8.38	<.001	<.001
Control	Cauliflower rice – Vegan ice cream	-1.49	0.13	-1.74	-1.24	-11.68	<.001	<.001
Control	Cauliflower rice – Plant-based sausages	-0.63	0.1	-0.82	-0.43	-6.31	<.001	<.001
Control	Vegan ice cream – Vegan mayo	1.2	0.14	0.92	1.48	8.28	<.001	<.001
Control	Vegan ice cream – Oat milk	0.96	0.13	0.71	1.21	7.6	<.001	<.001
Control	Vegan mayo – Plant-based sausages	-0.34	0.11	-0.55	-0.13	-3.19	.001	.002
Control	Oat milk – Plant-based sausages	-0.1	0.1	-0.3	0.1	-0.97	.332	.332
Treatment	Almond milk – Plant-based burgers	-1.2	0.12	-1.44	-0.96	-9.81	<.001	<.001
Treatment	Almond milk – Vegan ice cream	-0.89	0.13	-1.14	-0.65	-7.11	<.001	<.001
Treatment	Almond milk – Plant-based sausages	-0.34	0.12	-0.57	-0.11	-2.89	.004	.004
Treatment	Broccoli rice – Plant-based burgers	-1.59	0.14	-1.86	-1.33	-11.77	<.001	<.001
Treatment	Broccoli rice – Vegan ice cream	-1.28	0.14	-1.55	-1.01	-9.37	<.001	<.001
Treatment	Broccoli rice – Plant-based sausages	-0.73	0.12	-0.97	-0.5	-6.08	<.001	<.001
Treatment	Plant-based burgers – Cauliflower rice	1.25	0.14	0.99	1.51	9.25	<.001	<.001
Treatment	Plant-based burgers – Vegan mayo	1.44	0.14	1.18	1.71	10.65	<.001	<.001
Treatment	Plant-based burgers – Oat milk	1.32	0.14	1.06	1.59	9.77	<.001	<.001
Treatment	Cauliflower rice – Vegan ice cream	-0.94	0.14	-1.2	-0.67	-6.92	<.001	<.001
Treatment	Cauliflower rice – Plant-based sausages	-0.39	0.13	-0.64	-0.14	-3.03	.002	.003
Treatment	Vegan ice cream – Vegan mayo	1.13	0.15	0.85	1.42	7.74	<.001	<.001
Treatment	Vegan ice cream – Oat milk	1.01	0.13	0.77	1.26	8.05	<.001	<.001
Treatment	Vegan mayo – Plant-based sausages	-0.58	0.13	-0.84	-0.32	-4.37	<.001	<.001
Treatment	Oat milk – Plant-based sausages	-0.46	0.12	-0.7	-0.23	-3.87	<.001	<.001

Table W57: Study 6: Positive controls: across-product comparisons, specifically calorie comparisons for pairs of products. Corrections for multiple comparisons were applied within condition.

Condition	Product	Contrast	U	Unadj. p	Adj. p
Control	Almond milk	Fat vs. Calories	16561.0	<.001	<.001
Control	Oat milk	Fat vs. Calories	15714.5	<.001	<.001
Control	Broccoli rice	Fiber vs. Calories	33181.0	<.001	<.001
Control	Cauliflower rice	Fiber vs. Calories	37470.5	<.001	<.001
Control	Plant-based burgers	Fat vs. Calories	10756.5	<.001	<.001
Control	Plant-based sausages	Fat vs. Calories	17948.5	<.001	<.001
Control	Vegan ice cream	Fat vs. Calories	14472.0	<.001	<.001
Treatment	Almond milk	Fat vs. Calories	12327.5	<.001	<.001
Treatment	Oat milk	Fat vs. Calories	9562.5	<.001	<.001
Treatment	Broccoli rice	Fiber vs. Calories	27352.0	<.001	<.001
Treatment	Cauliflower rice	Fiber vs. Calories	18050.0	<.001	<.001
Treatment	Plant-based burgers	Fat vs. Calories	7538.0	<.001	<.001
Treatment	Plant-based sausages	Fat vs. Calories	11059.0	<.001	<.001
Treatment	Vegan ice cream	Fat vs. Calories	13827.0	<.001	<.001

Table W58: Study 6: Positive controls: within-product comparisons, specifically calories versus fat for some products and calories versus fiber for the others, using Mann–Whitney tests. Corrections for multiple comparisons were applied within condition.

Condition	Property	Contrast	U	Unadj. p	Adj. p
Control	Protein	Plant-based burgers vs. Almond milk	26218.5	<.001	<.001
Control	Protein	Plant-based burgers vs. Vegan ice cream	30467.0	<.001	<.001
Control	Protein	Plant-based burgers vs. Vegan mayo	35878.5	<.001	<.001
Control	Protein	Plant-based burgers vs. Oat milk	27847.0	<.001	<.001
Control	Fiber	Broccoli rice vs. Vegan mayo	38597.5	<.001	<.001
Control	Fiber	Cauliflower rice vs. Vegan mayo	42168.5	<.001	<.001
Treatment	Protein	Plant-based burgers vs. Almond milk	21354.5	<.001	<.001
Treatment	Protein	Plant-based burgers vs. Vegan ice cream	24848.5	<.001	<.001
Treatment	Protein	Plant-based burgers vs. Vegan mayo	24348.0	<.001	<.001
Treatment	Protein	Plant-based burgers vs. Oat milk	19619.5	<.001	<.001
Treatment	Fiber	Broccoli rice vs. Vegan mayo	27653.0	<.001	<.001
Treatment	Fiber	Cauliflower rice vs. Vegan mayo	23600.0	<.001	<.001

Table W59: Study 6: Positive controls: across-product comparisons, specifically protein estimates for some products and fiber estimates for others, using Mann–Whitney tests. Corrections for multiple comparisons were applied within condition.

Condition	Contrast	U	Unadj. p	Adj. p
Control	Plant-based burgers vs. Almond milk	28859.5	<.001	<.001
Control	Plant-based burgers vs. Broccoli rice	32409.0	<.001	<.001
Control	Plant-based burgers vs. Cauliflower rice	33754.5	<.001	<.001
Control	Plant-based burgers vs. Vegan mayo	31338.5	<.001	<.001
Control	Plant-based burgers vs. Oat milk	29225.5	<.001	<.001
Control	Plant-based sausages vs. Almond milk	24314.5	.176	.189
Control	Plant-based sausages vs. Broccoli rice	31294.5	<.001	<.001
Control	Plant-based sausages vs. Cauliflower rice	31361.0	<.001	<.001
Control	Plant-based sausages vs. Vegan mayo	28486.0	.001	.001
Control	Plant-based sausages vs. Oat milk	24405.5	.385	.385
Control	Vegan ice cream vs. Almond milk	28198.0	<.001	<.001
Control	Vegan ice cream vs. Broccoli rice	32090.5	<.001	<.001
Control	Vegan ice cream vs. Cauliflower rice	33286.5	<.001	<.001
Control	Vegan ice cream vs. Vegan mayo	30990.0	<.001	<.001
Control	Vegan ice cream vs. Oat milk	28561.5	<.001	<.001
Treatment	Plant-based burgers vs. Almond milk	23272.5	<.001	<.001
Treatment	Plant-based burgers vs. Broccoli rice	25549.5	<.001	<.001
Treatment	Plant-based burgers vs. Cauliflower rice	20358.5	<.001	<.001
Treatment	Plant-based burgers vs. Vegan mayo	21084.0	<.001	<.001
Treatment	Plant-based burgers vs. Oat milk	21059.5	<.001	<.001
Treatment	Plant-based sausages vs. Almond milk	18630.0	.014	.014
Treatment	Plant-based sausages vs. Broccoli rice	21857.0	<.001	<.001
Treatment	Plant-based sausages vs. Cauliflower rice	16382.5	.011	.011
Treatment	Plant-based sausages vs. Vegan mayo	17711.0	<.001	<.001
Treatment	Plant-based sausages vs. Oat milk	17199.5	.001	.001
Treatment	Vegan ice cream vs. Almond milk	23805.0	<.001	<.001
Treatment	Vegan ice cream vs. Broccoli rice	26650.5	<.001	<.001
Treatment	Vegan ice cream vs. Cauliflower rice	20833.5	<.001	<.001
Treatment	Vegan ice cream vs. Vegan mayo	21838.5	<.001	<.001
Treatment	Vegan ice cream vs. Oat milk	21677.0	<.001	<.001

Table W60: Study 6: Positive controls: across-product comparisons, specifically calorie comparisons for pairs of products, using Mann–Whitney tests. Corrections for multiple comparisons were applied within condition.

Product	Estimate	SE	Lower CI	Upper CI	z-ratio	Unadj. p	Adj. p
Almond milk	2.91	5.03	-6.94	12.77	0.58	.562	.752
Oat milk	2.21	5.0	-7.59	12.02	0.44	.658	.752
Broccoli rice	8.26	4.77	-1.09	17.6	1.73	.084	.668
Cauliflower rice	5.01	4.96	-4.72	14.73	1.01	.313	.752
Plant-based burgers	3.26	5.23	-6.98	13.51	0.62	.532	.752
Plant-based sausages	2.23	4.97	-7.52	11.97	0.45	.654	.752
Vegan ice cream	-1.15	4.71	-10.39	8.08	-0.24	.807	.807
Vegan mayo	5.27	4.8	-4.14	14.68	1.1	.272	.752

Table W61: Study 6: Effect of condition on the percentage of participants choosing the focal product rather than the distractor product. Corrections for multiple comparisons were applied across the eight products.

Product category	Control			Treatment		
	Low	Medium	High	Low	Medium	High
Milk alternatives	44	190	182	40	161	147
Plant-based meats	80	240	96	75	181	92
Vegan cold treats	88	83	26	88	66	34
Vegan spreads	112	84	23	90	50	20
Vegetable-based rice alternatives	111	190	115	104	144	100

Table W62: Study 6: Number of participants reporting low, medium, and high familiarity with each product category, by condition. Counts include only participants who saw a product from the category, which was not everyone for vegan cold treats and vegan spreads.

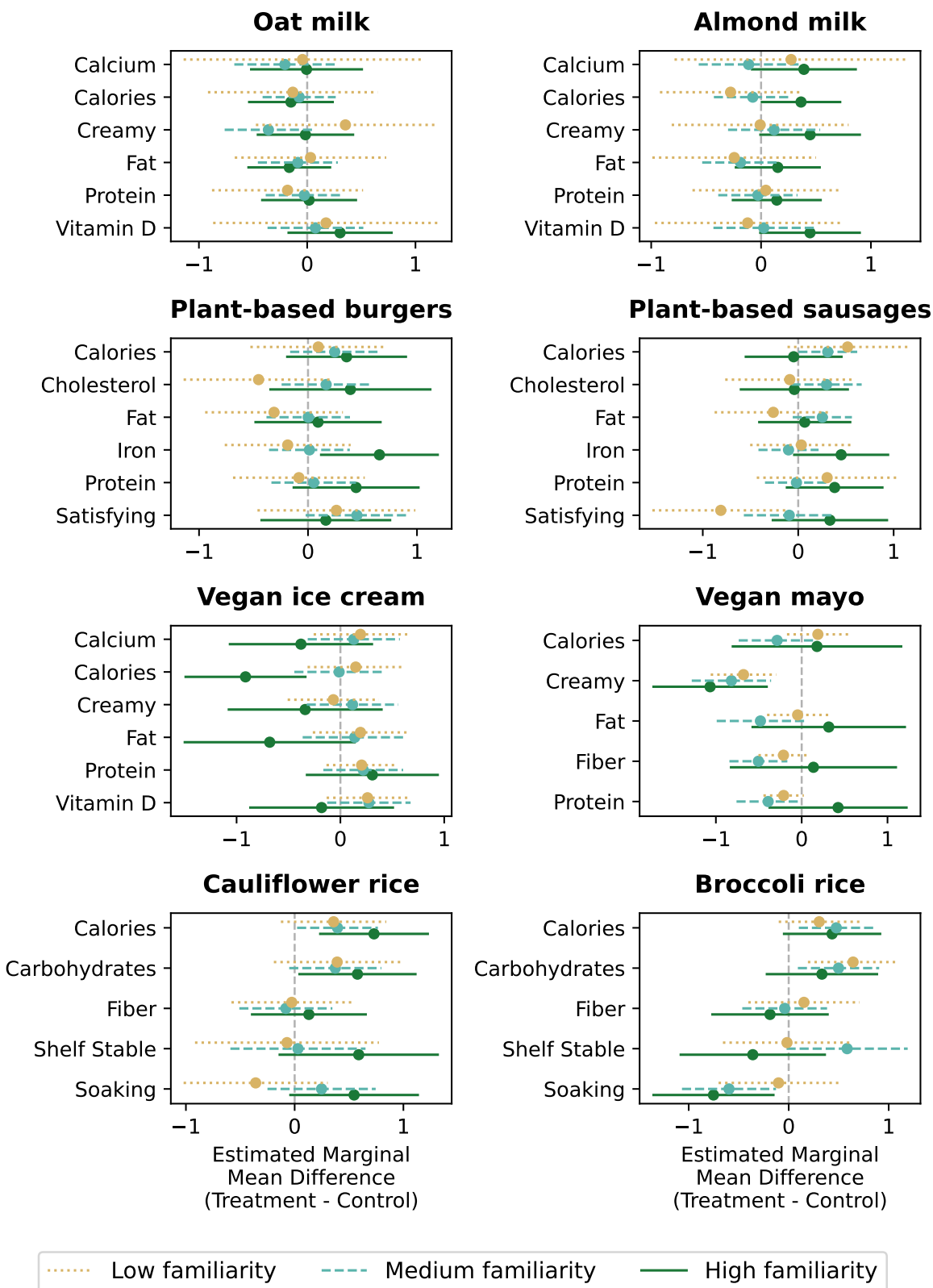


Figure W25: Study 6: Treatment effects by product and property at each level of familiarity with the product category.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	0.27	0.5	-0.79	1.33	.614	.984
Almond milk	Calories	-0.28	-0.85	-0.92	0.37	.398	.984
Almond milk	Creamy	-0.01	-0.02	-0.81	0.8	.984	.984
Almond milk	Fat	-0.24	-0.64	-0.99	0.5	.520	.984
Almond milk	Protein	0.04	0.13	-0.62	0.71	.898	.984
Almond milk	Vitamin D	-0.12	-0.28	-0.97	0.72	.777	.984
Oat milk	Calcium	-0.04	-0.08	-1.14	1.05	.938	.938
Oat milk	Calories	-0.13	-0.33	-0.92	0.65	.739	.938
Oat milk	Creamy	0.35	0.84	-0.47	1.18	.403	.938
Oat milk	Fat	0.03	0.09	-0.67	0.73	.931	.938
Oat milk	Protein	-0.18	-0.51	-0.88	0.52	.610	.938
Oat milk	Vitamin D	0.17	0.33	-0.87	1.22	.744	.938
Broccoli rice	Calories	0.31	1.48	-0.1	0.71	.140	.349
Broccoli rice	Carbohydrates	0.64	2.79	0.19	1.1	.005	.026
Broccoli rice	Fiber	0.15	0.54	-0.4	0.71	.591	.925
Broccoli rice	Shelf stable	-0.02	-0.05	-0.66	0.62	.959	.959
Broccoli rice	Soaking	-0.1	-0.33	-0.7	0.5	.740	.925
Cauliflower rice	Calories	0.36	1.45	-0.13	0.84	.148	.470
Cauliflower rice	Carbohydrates	0.39	1.32	-0.19	0.97	.188	.470
Cauliflower rice	Fiber	-0.03	-0.09	-0.58	0.53	.925	.925
Cauliflower rice	Shelf stable	-0.07	-0.16	-0.92	0.78	.870	.925
Cauliflower rice	Soaking	-0.36	-1.06	-1.02	0.3	.289	.482
Plant-based burgers	Calories	0.09	0.3	-0.53	0.72	.767	.786
Plant-based burgers	Cholesterol	-0.45	-1.29	-1.14	0.23	.196	.786
Plant-based burgers	Fat	-0.31	-0.97	-0.94	0.32	.334	.786
Plant-based burgers	Iron	-0.19	-0.63	-0.76	0.39	.527	.786
Plant-based burgers	Protein	-0.08	-0.27	-0.69	0.52	.786	.786
Plant-based burgers	Satisfying	0.26	0.71	-0.46	0.99	.481	.786
Plant-based sausages	Calories	0.52	1.61	-0.11	1.15	.107	.322
Plant-based sausages	Cholesterol	-0.09	-0.26	-0.77	0.59	.797	.905
Plant-based sausages	Fat	-0.26	-0.83	-0.88	0.35	.405	.631
Plant-based sausages	Iron	0.03	0.12	-0.5	0.57	.905	.905
Plant-based sausages	Protein	0.3	0.81	-0.43	1.04	.420	.631
Plant-based sausages	Satisfying	-0.81	-2.22	-1.53	-0.09	.027	.159
Vegan ice cream	Calcium	0.19	0.84	-0.26	0.64	.401	.614
Vegan ice cream	Calories	0.15	0.62	-0.32	0.61	.533	.639
Vegan ice cream	Creamy	-0.07	-0.3	-0.51	0.37	.761	.761
Vegan ice cream	Fat	0.19	0.82	-0.27	0.65	.409	.614
Vegan ice cream	Protein	0.2	1.18	-0.13	0.54	.236	.614
Vegan ice cream	Vitamin D	0.26	1.3	-0.13	0.66	.194	.614
Vegan mayo	Calories	0.19	1.03	-0.17	0.55	.305	.381
Vegan mayo	Creamy	-0.68	-3.48	-1.06	-0.3	.001	.003
Vegan mayo	Fat	-0.05	-0.26	-0.4	0.31	.794	.794
Vegan mayo	Fiber	-0.21	-1.43	-0.5	0.08	.153	.255
Vegan mayo	Protein	-0.21	-1.75	-0.45	0.03	.080	.200

Table W63: Study 6: Treatment effects by product and property among participants with low familiarity with the product category. Corrections for multiple comparisons were applied within products.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	-0.11	-0.49	-0.57	0.34	.627	.916
Almond milk	Calories	-0.08	-0.42	-0.43	0.28	.675	.916
Almond milk	Creamy	0.12	0.56	-0.3	0.54	.579	.916
Almond milk	Fat	-0.19	-1.05	-0.54	0.16	.291	.916
Almond milk	Protein	-0.03	-0.16	-0.39	0.33	.875	.916
Almond milk	Vitamin D	0.02	0.11	-0.43	0.48	.916	.916
Oat milk	Calcium	-0.21	-0.86	-0.67	0.26	.388	.884
Oat milk	Calories	-0.07	-0.43	-0.41	0.26	.667	.884
Oat milk	Creamy	-0.36	-1.74	-0.76	0.05	.082	.495
Oat milk	Fat	-0.09	-0.46	-0.46	0.28	.647	.884
Oat milk	Protein	-0.03	-0.14	-0.38	0.33	.885	.885
Oat milk	Vitamin D	0.08	0.34	-0.37	0.52	.736	.884
Broccoli rice	Calories	0.48	2.49	0.1	0.85	.013	.027
Broccoli rice	Carbohydrates	0.5	2.4	0.09	0.9	.016	.027
Broccoli rice	Fiber	-0.04	-0.19	-0.46	0.38	.852	.852
Broccoli rice	Shelf stable	0.58	1.89	-0.02	1.19	.059	.073
Broccoli rice	Soaking	-0.6	-2.49	-1.07	-0.13	.013	.027
Cauliflower rice	Calories	0.39	2.08	0.02	0.77	.038	.188
Cauliflower rice	Carbohydrates	0.37	1.73	-0.05	0.8	.084	.210
Cauliflower rice	Fiber	-0.08	-0.37	-0.51	0.35	.711	.889
Cauliflower rice	Shelf stable	0.03	0.1	-0.59	0.65	.924	.924
Cauliflower rice	Soaking	0.25	0.98	-0.25	0.74	.330	.549
Plant-based burgers	Calories	0.24	1.17	-0.16	0.65	.240	.721
Plant-based burgers	Cholesterol	0.17	0.8	-0.24	0.58	.424	.849
Plant-based burgers	Fat	0.0	0.01	-0.38	0.39	.992	.992
Plant-based burgers	Iron	0.01	0.07	-0.36	0.38	.945	.992
Plant-based burgers	Protein	0.05	0.26	-0.34	0.44	.793	.992
Plant-based burgers	Satisfying	0.45	1.87	-0.02	0.92	.062	.371
Plant-based sausages	Calories	0.31	1.97	0.0	0.62	.049	.228
Plant-based sausages	Cholesterol	0.3	1.58	-0.07	0.67	.114	.228
Plant-based sausages	Fat	0.25	1.6	-0.06	0.56	.110	.228
Plant-based sausages	Iron	-0.1	-0.63	-0.42	0.21	.527	.791
Plant-based sausages	Protein	-0.02	-0.11	-0.35	0.31	.914	.914
Plant-based sausages	Satisfying	-0.09	-0.39	-0.57	0.38	.699	.839
Vegan ice cream	Calcium	0.13	0.57	-0.32	0.57	.570	.724
Vegan ice cream	Calories	-0.01	-0.06	-0.44	0.42	.955	.955
Vegan ice cream	Creamy	0.12	0.52	-0.32	0.56	.603	.724
Vegan ice cream	Fat	0.14	0.54	-0.36	0.64	.589	.724
Vegan ice cream	Protein	0.22	1.12	-0.16	0.6	.261	.724
Vegan ice cream	Vitamin D	0.27	1.34	-0.13	0.68	.180	.724
Vegan mayo	Calories	-0.29	-1.26	-0.73	0.16	.209	.209
Vegan mayo	Creamy	-0.82	-3.47	-1.28	-0.36	.001	.003
Vegan mayo	Fat	-0.48	-1.85	-0.99	0.03	.064	.080
Vegan mayo	Fiber	-0.5	-2.93	-0.84	-0.17	.003	.008
Vegan mayo	Protein	-0.39	-2.08	-0.76	-0.02	.038	.063

Table W64: Study 6: Treatment effects by product and property among participants with medium familiarity with the product category. Corrections for multiple comparisons were applied within products.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	0.39	1.58	-0.09	0.87	.113	.170
Almond milk	Calories	0.36	1.94	-0.0	0.73	.052	.119
Almond milk	Creamy	0.45	1.89	-0.02	0.91	.059	.119
Almond milk	Fat	0.15	0.76	-0.24	0.54	.447	.494
Almond milk	Protein	0.14	0.68	-0.27	0.55	.494	.494
Almond milk	Vitamin D	0.45	1.89	-0.02	0.91	.059	.119
Oat milk	Calcium	-0.01	-0.02	-0.53	0.52	.981	.981
Oat milk	Calories	-0.15	-0.74	-0.55	0.25	.458	.917
Oat milk	Creamy	-0.02	-0.07	-0.47	0.43	.944	.981
Oat milk	Fat	-0.17	-0.84	-0.55	0.22	.403	.917
Oat milk	Protein	0.02	0.08	-0.43	0.46	.938	.981
Oat milk	Vitamin D	0.3	1.22	-0.18	0.79	.221	.917
Broccoli rice	Calories	0.43	1.73	-0.06	0.93	.084	.210
Broccoli rice	Carbohydrates	0.33	1.16	-0.23	0.89	.247	.411
Broccoli rice	Fiber	-0.19	-0.62	-0.77	0.4	.533	.533
Broccoli rice	Shelf stable	-0.36	-0.96	-1.09	0.37	.336	.420
Broccoli rice	Soaking	-0.75	-2.41	-1.36	-0.14	.016	.079
Cauliflower rice	Calories	0.73	2.83	0.22	1.23	.005	.023
Cauliflower rice	Carbohydrates	0.58	2.08	0.03	1.12	.037	.094
Cauliflower rice	Fiber	0.13	0.48	-0.4	0.66	.630	.630
Cauliflower rice	Shelf stable	0.59	1.57	-0.15	1.33	.117	.147
Cauliflower rice	Soaking	0.55	1.8	-0.05	1.14	.072	.121
Plant-based burgers	Calories	0.35	1.25	-0.2	0.91	.211	.423
Plant-based burgers	Cholesterol	0.39	1.02	-0.36	1.13	.306	.459
Plant-based burgers	Fat	0.09	0.31	-0.49	0.68	.757	.757
Plant-based burgers	Iron	0.66	2.35	0.11	1.2	.019	.111
Plant-based burgers	Protein	0.44	1.48	-0.14	1.02	.138	.414
Plant-based burgers	Satisfying	0.16	0.53	-0.44	0.76	.594	.712
Plant-based sausages	Calories	-0.05	-0.18	-0.56	0.47	.856	.889
Plant-based sausages	Cholesterol	-0.04	-0.14	-0.61	0.53	.889	.889
Plant-based sausages	Fat	0.07	0.28	-0.42	0.56	.783	.889
Plant-based sausages	Iron	0.45	1.75	-0.05	0.95	.080	.433
Plant-based sausages	Protein	0.38	1.46	-0.13	0.89	.144	.433
Plant-based sausages	Satisfying	0.33	1.07	-0.28	0.94	.286	.572
Vegan ice cream	Calcium	-0.38	-1.07	-1.08	0.32	.284	.448
Vegan ice cream	Calories	-0.91	-3.05	-1.5	-0.33	.002	.014
Vegan ice cream	Creamy	-0.34	-0.89	-1.09	0.41	.373	.448
Vegan ice cream	Fat	-0.68	-1.61	-1.51	0.15	.108	.323
Vegan ice cream	Protein	0.31	0.94	-0.33	0.95	.347	.448
Vegan ice cream	Vitamin D	-0.18	-0.51	-0.88	0.52	.611	.611
Vegan mayo	Calories	0.18	0.35	-0.82	1.17	.725	.783
Vegan mayo	Creamy	-1.07	-3.11	-1.74	-0.39	.002	.009
Vegan mayo	Fat	0.32	0.69	-0.59	1.22	.493	.783
Vegan mayo	Fiber	0.14	0.28	-0.84	1.11	.783	.783
Vegan mayo	Protein	0.42	1.02	-0.39	1.24	.306	.764

Table W65: Study 6: Treatment effects by product and property among participants with high familiarity with the product category. Corrections for multiple comparisons were applied within products.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	-0.39	-0.66	-1.54	0.77	.512	.880
Almond milk	Calories	0.2	0.54	-0.53	0.94	.590	.885
Almond milk	Creamy	0.13	0.27	-0.78	1.03	.784	.892
Almond milk	Fat	0.06	0.14	-0.77	0.88	.892	.892
Almond milk	Protein	-0.07	-0.19	-0.83	0.69	.852	.892
Almond milk	Vitamin D	0.15	0.3	-0.81	1.11	.765	.892
Oat milk	Calcium	-0.16	-0.27	-1.36	1.03	.790	.970
Oat milk	Calories	0.06	0.14	-0.79	0.91	.892	.970
Oat milk	Creamy	-0.71	-1.51	-1.63	0.21	.130	.970
Oat milk	Fat	-0.12	-0.29	-0.91	0.67	.772	.970
Oat milk	Protein	0.16	0.39	-0.63	0.94	.698	.970
Oat milk	Vitamin D	-0.1	-0.17	-1.23	1.03	.865	.970
Broccoli rice	Calories	0.17	0.61	-0.38	0.72	.543	.743
Broccoli rice	Carbohydrates	-0.15	-0.47	-0.75	0.46	.638	.743
Broccoli rice	Fiber	-0.19	-0.54	-0.89	0.51	.589	.743
Broccoli rice	Shelf stable	0.6	1.34	-0.28	1.48	.181	.743
Broccoli rice	Soaking	-0.5	-1.27	-1.26	0.27	.203	.743
Cauliflower rice	Calories	0.04	0.11	-0.57	0.65	.908	.962
Cauliflower rice	Carbohydrates	-0.02	-0.05	-0.74	0.7	.962	.962
Cauliflower rice	Fiber	-0.05	-0.15	-0.76	0.65	.879	.962
Cauliflower rice	Shelf stable	0.1	0.19	-0.95	1.15	.851	.962
Cauliflower rice	Soaking	0.61	1.43	-0.22	1.43	.152	.746
Plant-based burgers	Calories	0.15	0.4	-0.59	0.9	.692	.840
Plant-based burgers	Cholesterol	0.62	1.52	-0.18	1.42	.129	.580
Plant-based burgers	Fat	0.31	0.83	-0.43	1.05	.405	.840
Plant-based burgers	Iron	0.2	0.57	-0.49	0.89	.569	.840
Plant-based burgers	Protein	0.14	0.37	-0.58	0.85	.711	.840
Plant-based burgers	Satisfying	0.19	0.43	-0.68	1.05	.670	.840
Plant-based sausages	Calories	-0.21	-0.58	-0.91	0.49	.562	.674
Plant-based sausages	Cholesterol	0.39	0.98	-0.38	1.16	.327	.542
Plant-based sausages	Fat	0.51	1.46	-0.18	1.2	.144	.542
Plant-based sausages	Iron	-0.13	-0.42	-0.76	0.49	.672	.756
Plant-based sausages	Protein	-0.32	-0.78	-1.13	0.49	.436	.603
Plant-based sausages	Satisfying	0.72	1.63	-0.14	1.58	.102	.542
Vegan ice cream	Calcium	-0.06	-0.2	-0.7	0.57	.842	.963
Vegan ice cream	Calories	-0.16	-0.5	-0.79	0.47	.620	.930
Vegan ice cream	Creamy	0.19	0.58	-0.44	0.81	.560	.917
Vegan ice cream	Fat	-0.05	-0.16	-0.74	0.63	.874	.963
Vegan ice cream	Protein	0.02	0.06	-0.5	0.53	.952	.963
Vegan ice cream	Vitamin D	0.01	0.05	-0.55	0.58	.963	.963
Vegan mayo	Calories	-0.48	-1.62	-1.05	0.1	.105	.477
Vegan mayo	Creamy	-0.14	-0.46	-0.74	0.46	.646	.692
Vegan mayo	Fat	-0.43	-1.37	-1.06	0.19	.172	.477
Vegan mayo	Fiber	-0.29	-1.28	-0.74	0.15	.199	.477
Vegan mayo	Protein	-0.18	-0.81	-0.62	0.26	.419	.626

Table W66: Study 6: Differences in treatment effects between participants with medium and low familiarity with the product category (medium minus low), by product and property. Corrections for multiple comparisons were applied within products.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	0.12	0.2	-1.05	1.28	.845	.892
Almond milk	Calories	0.64	1.7	-0.1	1.38	.090	.712
Almond milk	Creamy	0.45	0.96	-0.47	1.38	.337	.712
Almond milk	Fat	0.4	0.92	-0.45	1.24	.356	.712
Almond milk	Protein	0.1	0.25	-0.68	0.88	.804	.892
Almond milk	Vitamin D	0.57	1.16	-0.4	1.53	.248	.712
Oat milk	Calcium	0.04	0.06	-1.18	1.25	.952	.970
Oat milk	Calories	-0.02	-0.04	-0.9	0.86	.970	.970
Oat milk	Creamy	-0.37	-0.77	-1.31	0.57	.442	.970
Oat milk	Fat	-0.2	-0.48	-1.0	0.6	.631	.970
Oat milk	Protein	0.2	0.47	-0.63	1.03	.637	.970
Oat milk	Vitamin D	0.13	0.22	-1.02	1.28	.825	.970
Broccoli rice	Calories	0.13	0.4	-0.51	0.77	.692	.743
Broccoli rice	Carbohydrates	-0.31	-0.85	-1.03	0.41	.397	.743
Broccoli rice	Fiber	-0.34	-0.82	-1.15	0.47	.411	.743
Broccoli rice	Shelf stable	-0.34	-0.69	-1.32	0.63	.491	.743
Broccoli rice	Soaking	-0.65	-1.49	-1.51	0.21	.136	.743
Cauliflower rice	Calories	0.37	1.04	-0.33	1.07	.298	.746
Cauliflower rice	Carbohydrates	0.19	0.46	-0.61	0.98	.646	.939
Cauliflower rice	Fiber	0.16	0.4	-0.61	0.93	.688	.939
Cauliflower rice	Shelf stable	0.66	1.15	-0.46	1.78	.249	.746
Cauliflower rice	Soaking	0.91	1.99	0.01	1.8	.047	.699
Plant-based burgers	Calories	0.26	0.61	-0.57	1.09	.542	.840
Plant-based burgers	Cholesterol	0.84	1.63	-0.17	1.86	.103	.580
Plant-based burgers	Fat	0.4	0.92	-0.46	1.26	.358	.840
Plant-based burgers	Iron	0.84	2.08	0.05	1.64	.038	.507
Plant-based burgers	Protein	0.52	1.22	-0.32	1.36	.221	.794
Plant-based burgers	Satisfying	-0.1	-0.2	-1.04	0.84	.840	.840
Plant-based sausages	Calories	-0.57	-1.36	-1.38	0.25	.173	.542
Plant-based sausages	Cholesterol	0.05	0.11	-0.84	0.93	.915	.915
Plant-based sausages	Fat	0.33	0.82	-0.46	1.12	.411	.603
Plant-based sausages	Iron	0.42	1.11	-0.32	1.15	.266	.542
Plant-based sausages	Protein	0.08	0.17	-0.82	0.98	.863	.914
Plant-based sausages	Satisfying	1.14	2.38	0.2	2.08	.017	.312
Vegan ice cream	Calcium	-0.57	-1.36	-1.4	0.26	.175	.605
Vegan ice cream	Calories	-1.06	-2.78	-1.81	-0.31	.005	.099
Vegan ice cream	Creamy	-0.27	-0.61	-1.14	0.6	.540	.917
Vegan ice cream	Fat	-0.87	-1.81	-1.82	0.07	.071	.424
Vegan ice cream	Protein	0.1	0.28	-0.62	0.83	.780	.963
Vegan ice cream	Vitamin D	-0.44	-1.08	-1.24	0.36	.279	.605
Vegan mayo	Calories	-0.01	-0.02	-1.07	1.05	.985	.985
Vegan mayo	Creamy	-0.39	-0.99	-1.16	0.38	.324	.608
Vegan mayo	Fat	0.36	0.73	-0.61	1.33	.463	.626
Vegan mayo	Fiber	0.35	0.67	-0.67	1.37	.501	.626
Vegan mayo	Protein	0.63	1.47	-0.21	1.48	.141	.477

Table W67: Study 6: Differences in treatment effects between participants with high and low familiarity with the product category (high minus low), by product and property. Corrections for multiple comparisons were applied within products.

Product	Property	Estimate	t-ratio	Lower CI	Upper CI	Unadj. p	Adj. p
Almond milk	Calcium	0.5	1.49	-0.16	1.17	.137	.712
Almond milk	Calories	0.44	1.69	-0.07	0.95	.091	.712
Almond milk	Creamy	0.33	1.03	-0.3	0.95	.304	.712
Almond milk	Fat	0.34	1.27	-0.18	0.86	.204	.712
Almond milk	Protein	0.17	0.62	-0.37	0.72	.538	.880
Almond milk	Vitamin D	0.42	1.27	-0.23	1.07	.205	.712
Oat milk	Calcium	0.2	0.56	-0.5	0.9	.576	.970
Oat milk	Calories	-0.08	-0.29	-0.6	0.44	.775	.970
Oat milk	Creamy	0.34	1.11	-0.26	0.95	.268	.970
Oat milk	Fat	-0.08	-0.29	-0.61	0.46	.772	.970
Oat milk	Protein	0.04	0.15	-0.53	0.61	.880	.970
Oat milk	Vitamin D	0.23	0.68	-0.43	0.89	.497	.970
Broccoli rice	Calories	-0.04	-0.13	-0.66	0.58	.893	.893
Broccoli rice	Carbohydrates	-0.17	-0.47	-0.86	0.53	.639	.743
Broccoli rice	Fiber	-0.15	-0.4	-0.87	0.58	.692	.743
Broccoli rice	Shelf stable	-0.94	-1.95	-1.89	0.01	.052	.743
Broccoli rice	Soaking	-0.16	-0.39	-0.93	0.62	.693	.743
Cauliflower rice	Calories	0.34	1.05	-0.29	0.96	.294	.746
Cauliflower rice	Carbohydrates	0.2	0.58	-0.49	0.89	.562	.937
Cauliflower rice	Fiber	0.21	0.61	-0.47	0.9	.544	.937
Cauliflower rice	Shelf stable	0.56	1.14	-0.41	1.52	.256	.746
Cauliflower rice	Soaking	0.3	0.75	-0.48	1.08	.450	.937
Plant-based burgers	Calories	0.11	0.31	-0.58	0.8	.757	.840
Plant-based burgers	Cholesterol	0.22	0.51	-0.63	1.07	.608	.840
Plant-based burgers	Fat	0.09	0.25	-0.61	0.79	.800	.840
Plant-based burgers	Iron	0.64	1.91	-0.02	1.3	.056	.507
Plant-based burgers	Protein	0.39	1.09	-0.31	1.09	.276	.828
Plant-based burgers	Satisfying	-0.29	-0.73	-1.05	0.48	.464	.840
Plant-based sausages	Calories	-0.36	-1.17	-0.96	0.24	.242	.542
Plant-based sausages	Cholesterol	-0.34	-0.97	-1.02	0.34	.331	.542
Plant-based sausages	Fat	-0.18	-0.62	-0.76	0.39	.533	.674
Plant-based sausages	Iron	0.55	1.82	-0.04	1.15	.069	.542
Plant-based sausages	Protein	0.4	1.29	-0.21	1.01	.198	.542
Plant-based sausages	Satisfying	0.43	1.08	-0.35	1.2	.281	.542
Vegan ice cream	Calcium	-0.51	-1.21	-1.33	0.32	.227	.605
Vegan ice cream	Calories	-0.9	-2.42	-1.63	-0.17	.015	.139
Vegan ice cream	Creamy	-0.46	-1.03	-1.32	0.41	.303	.605
Vegan ice cream	Fat	-0.82	-1.66	-1.79	0.15	.098	.439
Vegan ice cream	Protein	0.09	0.23	-0.66	0.84	.818	.963
Vegan ice cream	Vitamin D	-0.46	-1.11	-1.26	0.35	.268	.605
Vegan mayo	Calories	0.46	0.84	-0.63	1.56	.403	.626
Vegan mayo	Creamy	-0.25	-0.6	-1.06	0.57	.551	.636
Vegan mayo	Fat	0.8	1.51	-0.24	1.83	.131	.477
Vegan mayo	Fiber	0.64	1.22	-0.39	1.67	.223	.477
Vegan mayo	Protein	0.81	1.79	-0.08	1.71	.073	.477

Table W68: Study 6: Differences in treatment effects between participants with high and medium familiarity with the product category (high minus medium), by product and property. Corrections for multiple comparisons were applied within products.

Condition	Familiarity	Product	Contrast	Estimate	SE	Lower CI	Upper CI	t-ratio	Unadj. p	Adj. p
Control	Low	Almond milk	Fat – Calories	-0.38	0.27	-0.9	0.14	-1.44	.151	.176
Control	Low	Oat milk	Fat – Calories	-0.87	0.2	-1.26	-0.48	-4.4	<.001	<.001
Control	Low	Broccoli rice	Fiber – Calories	1.68	0.2	1.29	2.07	8.46	<.001	<.001
Control	Low	Cauliflower rice	Fiber – Calories	1.38	0.21	0.98	1.79	6.73	<.001	<.001
Control	Low	Plant-based burgers	Fat – Calories	-0.95	0.2	-1.35	-0.55	-4.66	<.001	<.001
Control	Low	Plant-based sausages	Fat – Calories	-0.28	0.21	-0.7	0.13	-1.33	.182	.182
Control	Low	Vegan ice cream	Fat – Calories	-0.73	0.15	-1.02	-0.44	-4.94	<.001	<.001
Control	Medium	Almond milk	Fat – Calories	-0.51	0.11	-0.73	-0.28	-4.41	<.001	<.001
Control	Medium	Oat milk	Fat – Calories	-0.53	0.13	-0.77	-0.28	-4.15	<.001	<.001
Control	Medium	Broccoli rice	Fiber – Calories	2.05	0.16	1.73	2.38	12.52	<.001	<.001
Control	Medium	Cauliflower rice	Fiber – Calories	1.69	0.14	1.4	1.97	11.7	<.001	<.001
Control	Medium	Plant-based burgers	Fat – Calories	-1.1	0.13	-1.36	-0.83	-8.18	<.001	<.001
Control	Medium	Plant-based sausages	Fat – Calories	-0.58	0.09	-0.76	-0.39	-6.14	<.001	<.001
Control	Medium	Vegan ice cream	Fat – Calories	-0.65	0.13	-0.91	-0.4	-4.99	<.001	<.001
Control	High	Almond milk	Fat – Calories	-0.34	0.13	-0.59	-0.1	-2.75	.006	.007
Control	High	Oat milk	Fat – Calories	-0.7	0.11	-0.92	-0.48	-6.17	<.001	<.001
Control	High	Broccoli rice	Fiber – Calories	2.04	0.19	1.67	2.41	10.91	<.001	<.001
Control	High	Cauliflower rice	Fiber – Calories	1.38	0.18	1.03	1.72	7.81	<.001	<.001
Control	High	Plant-based burgers	Fat – Calories	-1.07	0.19	-1.45	-0.7	-5.59	<.001	<.001
Control	High	Plant-based sausages	Fat – Calories	-0.65	0.19	-1.02	-0.27	-3.39	.001	.001
Control	High	Vegan ice cream	Fat – Calories	-0.62	0.28	-1.16	-0.07	-2.21	.027	.027
Treatment	Low	Almond milk	Fat – Calories	-0.35	0.2	-0.74	0.04	-1.74	.083	.083
Treatment	Low	Oat milk	Fat – Calories	-0.71	0.26	-1.22	-0.2	-2.71	.007	.008
Treatment	Low	Broccoli rice	Fiber – Calories	1.53	0.2	1.14	1.91	7.75	<.001	<.001
Treatment	Low	Cauliflower rice	Fiber – Calories	1.0	0.22	0.57	1.43	4.59	<.001	<.001
Treatment	Low	Plant-based burgers	Fat – Calories	-1.36	0.2	-1.75	-0.97	-6.83	<.001	<.001
Treatment	Low	Plant-based sausages	Fat – Calories	-1.06	0.23	-1.5	-0.62	-4.68	<.001	<.001
Treatment	Low	Vegan ice cream	Fat – Calories	-0.68	0.12	-0.91	-0.45	-5.79	<.001	<.001
Treatment	Medium	Almond milk	Fat – Calories	-0.62	0.13	-0.88	-0.35	-4.58	<.001	<.001
Treatment	Medium	Oat milk	Fat – Calories	-0.54	0.14	-0.8	-0.27	-3.96	<.001	<.001
Treatment	Medium	Broccoli rice	Fiber – Calories	1.54	0.17	1.2	1.88	8.86	<.001	<.001
Treatment	Medium	Cauliflower rice	Fiber – Calories	1.21	0.18	0.87	1.56	6.88	<.001	<.001
Treatment	Medium	Plant-based burgers	Fat – Calories	-1.34	0.13	-1.6	-1.08	-10.11	<.001	<.001
Treatment	Medium	Plant-based sausages	Fat – Calories	-0.64	0.11	-0.85	-0.42	-5.7	<.001	<.001
Treatment	Medium	Vegan ice cream	Fat – Calories	-0.5	0.16	-0.81	-0.19	-3.14	.002	.002
Treatment	High	Almond milk	Fat – Calories	-0.56	0.11	-0.77	-0.34	-5.09	<.001	<.001
Treatment	High	Oat milk	Fat – Calories	-0.71	0.13	-0.97	-0.45	-5.33	<.001	<.001
Treatment	High	Broccoli rice	Fiber – Calories	1.42	0.2	1.03	1.81	7.09	<.001	<.001
Treatment	High	Cauliflower rice	Fiber – Calories	0.78	0.2	0.39	1.17	3.97	<.001	<.001
Treatment	High	Plant-based burgers	Fat – Calories	-1.33	0.15	-1.62	-1.04	-9.04	<.001	<.001
Treatment	High	Plant-based sausages	Fat – Calories	-0.53	0.17	-0.86	-0.2	-3.13	.002	.002
Treatment	High	Vegan ice cream	Fat – Calories	-0.38	0.23	-0.84	0.07	-1.65	.099	.099

Table W69: Study 6: Positive controls: within-product comparisons, specifically calories versus fat for some products and calories versus fiber for the others, at each level of familiarity with the product category. Corrections for multiple comparisons were applied within condition and familiarity level.

Familiarity	Property	Contrast	Estimate	SE	Lower CI	Upper CI	t-ratio	Unadj. p	Adj. p
<i>Control condition</i>									
Low	Protein	Almond milk – Plant-based burgers	-0.51	0.37	-1.25	0.22	-1.37	.172	.172
Low	Fiber	Broccoli rice – Vegan mayo	2.15	0.23	1.7	2.61	9.32	<.001	<.001
Low	Protein	Plant-based burgers – Vegan ice cream	1.32	0.26	0.81	1.83	5.1	<.001	<.001
Low	Protein	Plant-based burgers – Vegan mayo	1.65	0.24	1.18	2.11	6.89	<.001	<.001
Low	Protein	Plant-based burgers – Oat milk	0.86	0.35	0.16	1.56	2.42	.015	.018
Low	Fiber	Cauliflower rice – Vegan mayo	2.3	0.2	1.92	2.69	11.74	<.001	<.001
Medium	Protein	Almond milk – Plant-based burgers	-0.76	0.17	-1.1	-0.42	-4.41	<.001	<.001
Medium	Fiber	Broccoli rice – Vegan mayo	2.55	0.19	2.18	2.91	13.52	<.001	<.001
Medium	Protein	Plant-based burgers – Vegan ice cream	1.51	0.17	1.17	1.84	8.92	<.001	<.001
Medium	Protein	Plant-based burgers – Vegan mayo	1.7	0.18	1.35	2.04	9.65	<.001	<.001
Medium	Protein	Plant-based burgers – Oat milk	0.94	0.18	0.59	1.29	5.29	<.001	<.001
Medium	Fiber	Cauliflower rice – Vegan mayo	2.36	0.18	2.0	2.72	12.8	<.001	<.001
High	Protein	Almond milk – Plant-based burgers	-0.83	0.23	-1.29	-0.38	-3.58	<.001	<.001
High	Fiber	Broccoli rice – Vegan mayo	2.43	0.41	1.63	3.24	5.93	<.001	<.001
High	Protein	Plant-based burgers – Vegan ice cream	1.52	0.3	0.94	2.1	5.15	<.001	<.001
High	Protein	Plant-based burgers – Vegan mayo	1.89	0.26	1.37	2.41	7.15	<.001	<.001
High	Protein	Plant-based burgers – Oat milk	0.84	0.21	0.43	1.25	4.01	<.001	<.001
High	Fiber	Cauliflower rice – Vegan mayo	2.0	0.35	1.31	2.68	5.7	<.001	<.001
<i>Treatment condition</i>									
Low	Protein	Almond milk – Plant-based burgers	-0.39	0.28	-0.93	0.16	-1.38	.168	.168
Low	Fiber	Broccoli rice – Vegan mayo	2.52	0.21	2.11	2.93	12.02	<.001	<.001
Low	Protein	Plant-based burgers – Vegan ice cream	1.03	0.21	0.61	1.45	4.84	<.001	<.001
Low	Protein	Plant-based burgers – Vegan mayo	1.77	0.2	1.37	2.17	8.7	<.001	<.001
Low	Protein	Plant-based burgers – Oat milk	0.96	0.3	0.37	1.55	3.18	.001	.002
Low	Fiber	Cauliflower rice – Vegan mayo	2.49	0.24	2.03	2.95	10.53	<.001	<.001
Medium	Protein	Almond milk – Plant-based burgers	-0.85	0.18	-1.2	-0.49	-4.64	<.001	<.001
Medium	Fiber	Broccoli rice – Vegan mayo	3.01	0.2	2.62	3.4	15.24	<.001	<.001
Medium	Protein	Plant-based burgers – Vegan ice cream	1.34	0.21	0.92	1.75	6.31	<.001	<.001
Medium	Protein	Plant-based burgers – Vegan mayo	2.14	0.19	1.77	2.52	11.14	<.001	<.001
Medium	Protein	Plant-based burgers – Oat milk	1.02	0.18	0.66	1.37	5.63	<.001	<.001
Medium	Fiber	Cauliflower rice – Vegan mayo	2.78	0.21	2.36	3.2	12.99	<.001	<.001
High	Protein	Almond milk – Plant-based burgers	-1.13	0.25	-1.62	-0.64	-4.53	<.001	<.001
High	Fiber	Broccoli rice – Vegan mayo	2.11	0.41	1.31	2.91	5.16	<.001	<.001
High	Protein	Plant-based burgers – Vegan ice cream	1.66	0.31	1.05	2.26	5.36	<.001	<.001
High	Protein	Plant-based burgers – Vegan mayo	1.91	0.39	1.15	2.66	4.92	<.001	<.001
High	Protein	Plant-based burgers – Oat milk	1.26	0.27	0.73	1.79	4.69	<.001	<.001
High	Fiber	Cauliflower rice – Vegan mayo	1.99	0.38	1.25	2.73	5.27	<.001	<.001

Table W70: Study 6: Positive controls: across-product comparisons, specifically protein estimates for some products and fiber estimates for others, at each level of familiarity with the product category. Corrections for multiple comparisons were applied within condition and familiarity level.

Familiarity	Contrast	Estimate	SE	Lower CI	Upper CI	t-ratio	Unadj. p	Adj. p
<i>Control condition</i>								
Low	Almond milk – Plant-based burgers	-0.86	0.35	-1.54	-0.17	-2.45	.014	.021
Low	Almond milk – Vegan ice cream	-0.79	0.29	-1.35	-0.23	-2.75	.006	.010
Low	Almond milk – Plant-based sausages	0.34	0.33	-0.3	0.99	1.05	.294	.339
Low	Broccoli rice – Plant-based burgers	-1.76	0.27	-2.29	-1.23	-6.46	<.001	<.001
Low	Broccoli rice – Vegan ice cream	-1.69	0.22	-2.12	-1.26	-7.65	<.001	<.001
Low	Broccoli rice – Plant-based sausages	-0.56	0.25	-1.04	-0.07	-2.26	.024	.033
Low	Plant-based burgers – Cauliflower rice	1.32	0.29	0.75	1.89	4.54	<.001	<.001
Low	Plant-based burgers – Vegan mayo	1.5	0.26	0.99	2.02	5.71	<.001	<.001
Low	Plant-based burgers – Oat milk	1.09	0.38	0.35	1.84	2.88	.004	.007
Low	Cauliflower rice – Vegan ice cream	-1.25	0.25	-1.73	-0.77	-5.08	<.001	<.001
Low	Cauliflower rice – Plant-based sausages	-0.12	0.26	-0.62	0.39	-0.45	.654	.701
Low	Vegan ice cream – Vegan mayo	1.43	0.22	1.01	1.86	6.6	<.001	<.001
Low	Vegan ice cream – Oat milk	1.02	0.33	0.38	1.66	3.14	.002	.004
Low	Vegan mayo – Plant-based sausages	-0.3	0.23	-0.75	0.15	-1.32	.187	.234
Low	Oat milk – Plant-based sausages	0.11	0.3	-0.47	0.69	0.37	.709	.709
Medium	Almond milk – Plant-based burgers	-0.99	0.16	-1.31	-0.67	-6.11	<.001	<.001
Medium	Almond milk – Vegan ice cream	-0.76	0.18	-1.12	-0.41	-4.24	<.001	<.001
Medium	Almond milk – Plant-based sausages	-0.02	0.14	-0.3	0.25	-0.17	.863	.863
Medium	Broccoli rice – Plant-based burgers	-1.78	0.17	-2.12	-1.44	-10.34	<.001	<.001
Medium	Broccoli rice – Vegan ice cream	-1.56	0.19	-1.94	-1.18	-8.01	<.001	<.001
Medium	Broccoli rice – Plant-based sausages	-0.82	0.15	-1.1	-0.53	-5.52	<.001	<.001
Medium	Plant-based burgers – Cauliflower rice	1.6	0.16	1.28	1.93	9.74	<.001	<.001
Medium	Plant-based burgers – Vegan mayo	1.01	0.2	0.63	1.4	5.13	<.001	<.001
Medium	Plant-based burgers – Oat milk	1.02	0.16	0.71	1.33	6.39	<.001	<.001
Medium	Cauliflower rice – Vegan ice cream	-1.38	0.18	-1.73	-1.02	-7.61	<.001	<.001
Medium	Cauliflower rice – Plant-based sausages	-0.64	0.13	-0.89	-0.38	-4.92	<.001	<.001
Medium	Vegan ice cream – Vegan mayo	0.79	0.21	0.36	1.21	3.66	<.001	<.001
Medium	Vegan ice cream – Oat milk	0.79	0.18	0.43	1.15	4.33	<.001	<.001
Medium	Vegan mayo – Plant-based sausages	-0.04	0.16	-0.36	0.28	-0.27	.786	.842
Medium	Oat milk – Plant-based sausages	-0.05	0.13	-0.3	0.21	-0.38	.704	.812
High	Almond milk – Plant-based burgers	-1.15	0.21	-1.56	-0.75	-5.57	<.001	<.001
High	Almond milk – Vegan ice cream	-2.01	0.25	-2.49	-1.53	-8.21	<.001	<.001
High	Almond milk – Plant-based sausages	-0.67	0.2	-1.06	-0.27	-3.29	.001	.001
High	Broccoli rice – Plant-based burgers	-1.72	0.26	-2.23	-1.21	-6.64	<.001	<.001
High	Broccoli rice – Vegan ice cream	-2.58	0.27	-3.1	-2.06	-9.68	<.001	<.001
High	Broccoli rice – Plant-based sausages	-1.23	0.24	-1.69	-0.77	-5.2	<.001	<.001
High	Plant-based burgers – Cauliflower rice	1.49	0.23	1.04	1.95	6.45	<.001	<.001
High	Plant-based burgers – Vegan mayo	0.5	0.37	-0.23	1.23	1.35	.178	.190
High	Plant-based burgers – Oat milk	0.89	0.21	0.47	1.31	4.14	<.001	<.001
High	Cauliflower rice – Vegan ice cream	-2.35	0.26	-2.86	-1.85	-9.07	<.001	<.001
High	Cauliflower rice – Plant-based sausages	-1.01	0.23	-1.45	-0.56	-4.45	<.001	<.001
High	Vegan ice cream – Vegan mayo	1.36	0.4	0.58	2.15	3.41	.001	.001
High	Vegan ice cream – Oat milk	1.75	0.24	1.28	2.22	7.3	<.001	<.001
High	Vegan mayo – Plant-based sausages	-0.02	0.35	-0.71	0.68	-0.04	.966	.966
High	Oat milk – Plant-based sausages	-0.4	0.21	-0.82	0.02	-1.87	.061	.070

Table W71: Study 6: Positive controls: across-product comparisons, specifically calorie comparisons for pairs of products, at each level of familiarity with the product category, control condition. Corrections for multiple comparisons were applied within condition and familiarity level.

Familiarity	Contrast	Estimate	SE	Lower CI	Upper CI	t-ratio	Unadj. p	Adj. p
<i>Treatment condition</i>								
Low	Almond milk – Plant-based burgers	-1.23	0.27	-1.77	-0.69	-4.49	<.001	<.001
Low	Almond milk – Vegan ice cream	-1.21	0.26	-1.72	-0.71	-4.69	<.001	<.001
Low	Almond milk – Plant-based sausages	-0.45	0.31	-1.07	0.16	-1.44	.151	.162
Low	Broccoli rice – Plant-based burgers	-1.55	0.24	-2.02	-1.08	-6.43	<.001	<.001
Low	Broccoli rice – Vegan ice cream	-1.53	0.22	-1.97	-1.09	-6.82	<.001	<.001
Low	Broccoli rice – Plant-based sausages	-0.77	0.29	-1.34	-0.2	-2.66	.008	.011
Low	Plant-based burgers – Cauliflower rice	1.05	0.27	0.53	1.57	3.97	<.001	<.001
Low	Plant-based burgers – Vegan mayo	1.41	0.23	0.95	1.87	6.0	<.001	<.001
Low	Plant-based burgers – Oat milk	1.32	0.31	0.71	1.93	4.22	<.001	<.001
Low	Cauliflower rice – Vegan ice cream	-1.04	0.23	-1.48	-0.59	-4.56	<.001	<.001
Low	Cauliflower rice – Plant-based sausages	-0.27	0.29	-0.85	0.3	-0.94	.347	.347
Low	Vegan ice cream – Vegan mayo	1.39	0.21	0.99	1.8	6.72	<.001	<.001
Low	Vegan ice cream – Oat milk	1.3	0.3	0.72	1.88	4.39	<.001	<.001
Low	Vegan mayo – Plant-based sausages	-0.63	0.26	-1.13	-0.13	-2.46	.014	.017
Low	Oat milk – Plant-based sausages	-0.54	0.3	-1.12	0.04	-1.82	.068	.079
Medium	Almond milk – Plant-based burgers	-1.31	0.2	-1.7	-0.92	-6.59	<.001	<.001
Medium	Almond milk – Vegan ice cream	-0.83	0.21	-1.24	-0.42	-3.94	<.001	<.001
Medium	Almond milk – Plant-based sausages	-0.41	0.18	-0.76	-0.06	-2.3	.022	.022
Medium	Broccoli rice – Plant-based burgers	-1.55	0.23	-2.0	-1.11	-6.83	<.001	<.001
Medium	Broccoli rice – Vegan ice cream	-1.07	0.22	-1.5	-0.63	-4.81	<.001	<.001
Medium	Broccoli rice – Plant-based sausages	-0.65	0.19	-1.02	-0.28	-3.46	.001	.001
Medium	Plant-based burgers – Cauliflower rice	1.45	0.2	1.06	1.85	7.17	<.001	<.001
Medium	Plant-based burgers – Vegan mayo	1.54	0.23	1.09	2.0	6.64	<.001	<.001
Medium	Plant-based burgers – Oat milk	1.34	0.2	0.94	1.73	6.68	<.001	<.001
Medium	Cauliflower rice – Vegan ice cream	-0.97	0.22	-1.4	-0.54	-4.37	<.001	<.001
Medium	Cauliflower rice – Plant-based sausages	-0.55	0.2	-0.94	-0.17	-2.8	.005	.006
Medium	Vegan ice cream – Vegan mayo	1.06	0.23	0.6	1.52	4.54	<.001	<.001
Medium	Vegan ice cream – Oat milk	0.85	0.2	0.45	1.25	4.19	<.001	<.001
Medium	Vegan mayo – Plant-based sausages	-0.64	0.2	-1.04	-0.24	-3.15	.002	.002
Medium	Oat milk – Plant-based sausages	-0.43	0.18	-0.78	-0.08	-2.42	.016	.017
High	Almond milk – Plant-based burgers	-1.14	0.24	-1.61	-0.68	-4.81	<.001	<.001
High	Almond milk – Vegan ice cream	-0.74	0.25	-1.22	-0.25	-3.0	.003	.005
High	Almond milk – Plant-based sausages	-0.25	0.21	-0.67	0.17	-1.19	.234	.293
High	Broccoli rice – Plant-based burgers	-1.64	0.27	-2.16	-1.11	-6.11	<.001	<.001
High	Broccoli rice – Vegan ice cream	-1.23	0.3	-1.81	-0.65	-4.14	<.001	<.001
High	Broccoli rice – Plant-based sausages	-0.75	0.25	-1.23	-0.27	-3.04	.002	.005
High	Plant-based burgers – Cauliflower rice	1.12	0.3	0.54	1.7	3.78	<.001	<.001
High	Plant-based burgers – Vegan mayo	0.68	0.4	-0.1	1.46	1.71	.088	.120
High	Plant-based burgers – Oat milk	1.39	0.25	0.9	1.88	5.59	<.001	<.001
High	Cauliflower rice – Vegan ice cream	-0.71	0.27	-1.25	-0.17	-2.6	.009	.016
High	Cauliflower rice – Plant-based sausages	-0.23	0.25	-0.72	0.26	-0.92	.355	.410
High	Vegan ice cream – Vegan mayo	0.27	0.43	-0.58	1.12	0.62	.533	.571
High	Vegan ice cream – Oat milk	0.99	0.25	0.5	1.47	3.98	<.001	<.001
High	Vegan mayo – Plant-based sausages	0.21	0.41	-0.59	1.01	0.52	.605	.605
High	Oat milk – Plant-based sausages	-0.5	0.23	-0.95	-0.06	-2.22	.026	.039

Table W72: Study 6: Positive controls: across-product comparisons, specifically calorie comparisons for pairs of products, at each level of familiarity with the product category, treatment condition. Corrections for multiple comparisons were applied within condition and familiarity level.

WEB APPENDIX E: NOVEL PRODUCTS

Methods

Participants (N=2202; mean age: 41; 51% female, 46% male) were a U.S. sample recruited from Prolific. Participants were asked to carefully consider a mockup of packaging for a product that a company is considering launching into the market under a specified brand (“Provisions” for chicken and “Blue Acres” for milk). Each participant was randomly assigned to evaluate a single product, either chicken or milk, and was randomly assigned to one of four labeling conditions.

For chicken, in the control condition the package was labeled ‘Farm-raised chicken’ and the three novel-label conditions were ‘cultivated chicken’, ‘lab-grown chicken’, and ‘cell-cultured chicken.’ The novel-label condition packages included a one-sentence disclosure explaining the production method (e.g., “Lab-grown chicken is made from chicken cells that are grown outside the animal, rather than from raised chickens”) with variants across the conditions to use the verb from the label. For milk, the same novel labels were used with similar disclosure text across labels (e.g., “Lab-grown milk is produced from cells grown in a controlled environment outside the animal”). The product imagery and brand were otherwise identical across conditions, and the text of the questions referred simply to “this product.”

Participants answered questions about the product on 7-point scales. For chicken, participants estimated how much of daily calorie, protein, fat, cholesterol, and iron needs or allowances a 3 oz portion of the product likely provides, and how satisfying a portion is likely to be. For milk, participants estimated how much of daily calorie, protein, fat, calcium, and vitamin D needs a cup of the product likely provides, and how creamy the product is likely to be. All participants also rated how confident they were that they understand how the product is produced. Participants in the novel-label conditions answered two additional questions that do not apply to the conventional product: the extent to which the

product has the same chemical composition as the conventionally produced product, and how nutritionally similar it is to that product. Finally, participants answered demographic questions.

Participants who failed an attention check question, which simply asked participants to select the third option, were excluded (40 participants), as were participants who gave inconsistent answers to their age and the year that they were born (45 participants) or participants who looked something up (11 participants). There was overlap among these exclusion criteria; in total 93 participants were excluded and 2109 remained. Of these, 1099 evaluated chicken and 1010 evaluated milk.

Results

We analyzed the two products separately. For each product we fit two linear models that regressed participant ratings on property, condition, and their interaction: one for the questions asked in all four conditions, and one for the two questions asked only in the novel-label conditions. From these models, we estimated the pairwise differences between conditions for each property and tested them against 0, correcting for multiple comparisons across all comparisons within each product. The distribution of answers to all questions in all conditions is shown in Figures [W27](#) and [W28](#).

Figure [W26](#) summarizes the differences across conditions. It shows the estimated differences between each novel label and the control label for the questions common to all conditions, and between the pairs of novel labels for the two questions asked only in the novel-label conditions. Tables [W73](#) and [W74](#) report all pairwise contrasts. Estimates of the nutritional quantities did not differ significantly between any pair of labels for either product, and judgments of chemical composition and nutritional similarity did not differ significantly among the three novel labels. Participants expected cell-cultured, cultivated, and lab-grown chicken to be less satisfying than farm-raised chicken and lab-grown chicken to be less satisfying than cultivated chicken. Participants were more confident that they understood how

lab-grown milk is produced than milk or cell-cultured milk, and expected lab-grown milk to be less creamy than milk. The per-condition distribution of responses to the questions (Figures W27 and W28) shows that participants tended not to be confident about how the control condition milk product was produced. One possibility is that when answering this question in isolation people realize that there are aspects of the production that they do not understand. It is also possible that this confidence would have been higher if the milk label had been more descriptive, for example ‘2% milk,’ just as the control condition product was labeled as ‘Farm-raised’ rather than simply ‘chicken.’

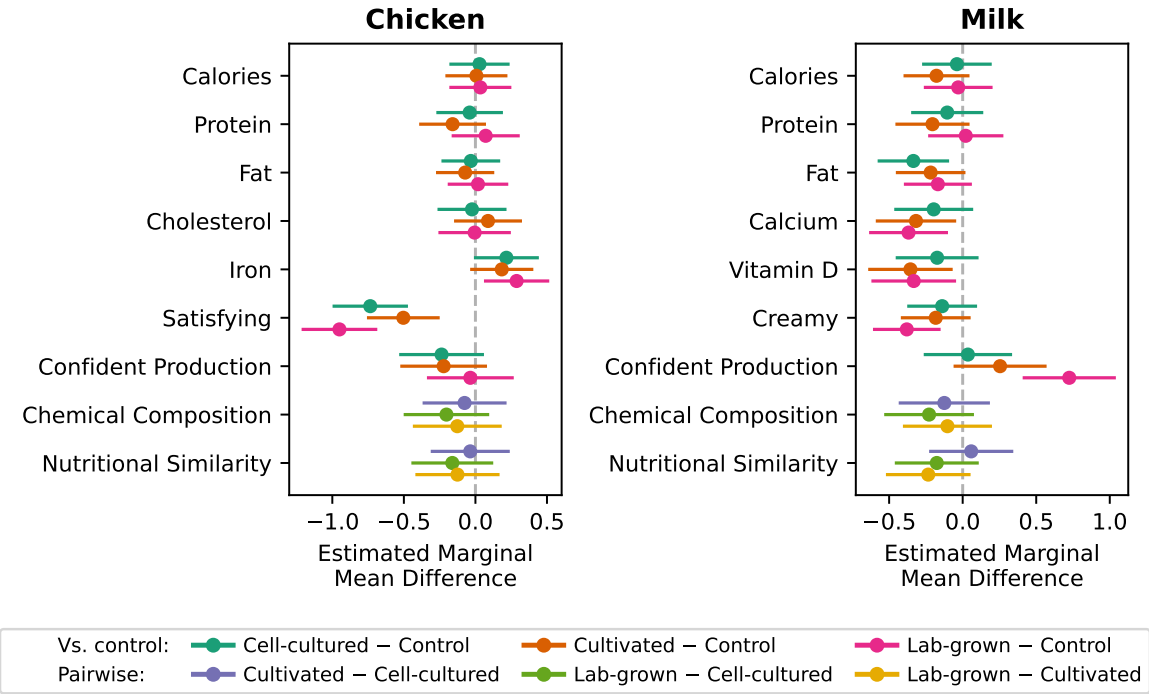


Figure W26: Estimated differences between labeling conditions for Study 7. For the questions asked in all conditions, the figure displays the difference between each novel label and the control label. For the two questions asked only in the novel-label conditions, it displays pairwise differences between the novel labels.

Cliff’s delta between each pair of conditions for every property shows similar effects (Tables W75 and W76). We also compared each pair of conditions for each property using Mann–Whitney U tests (Tables W77 and W78). The Mann–Whitney results were consistent with the parametric analysis; the only additional comparison to reach significance was a

lower fat estimate for cell-cultured milk than for milk.

As positive controls we contrasted, within condition, participants' estimates for calories versus fat for chicken and creaminess versus fat for milk. All eight comparisons were significant as were Mann-Whitney tests of these contrasts (Tables [W79](#) and [W80](#)).

Property	Contrast	Estimate	SE	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
Calories	Cell-cultured – Control	0.03	0.11	0.27	.791	.965
Calories	Cultivated – Control	0.01	0.11	0.06	.951	.965
Calories	Lab-grown – Control	0.03	0.11	0.31	.756	.965
Calories	Cultivated – Cell-cultured	−0.02	0.11	−0.20	.841	.965
Calories	Lab-grown – Cell-cultured	0.01	0.11	0.05	.956	.965
Calories	Lab-grown – Cultivated	0.03	0.11	0.25	.804	.965
Protein	Cell-cultured – Control	−0.04	0.12	−0.34	.733	.965
Protein	Cultivated – Control	−0.16	0.12	−1.34	.180	.630
Protein	Lab-grown – Control	0.07	0.12	0.59	.555	.918
Protein	Cultivated – Cell-cultured	−0.12	0.12	−0.98	.326	.833
Protein	Lab-grown – Cell-cultured	0.11	0.12	0.91	.364	.833
Protein	Lab-grown – Cultivated	0.23	0.12	1.87	.062	.426
Fat	Cell-cultured – Control	−0.03	0.10	−0.31	.759	.965
Fat	Cultivated – Control	−0.07	0.10	−0.69	.489	.869
Fat	Lab-grown – Control	0.02	0.11	0.17	.868	.965
Fat	Cultivated – Cell-cultured	−0.04	0.11	−0.37	.709	.965
Fat	Lab-grown – Cell-cultured	0.05	0.11	0.45	.650	.965
Fat	Lab-grown – Cultivated	0.09	0.11	0.82	.412	.847
Cholesterol	Cell-cultured – Control	−0.02	0.12	−0.19	.846	.965
Cholesterol	Cultivated – Control	0.09	0.12	0.73	.467	.863
Cholesterol	Lab-grown – Control	−0.01	0.13	−0.04	.965	.965
Cholesterol	Cultivated – Cell-cultured	0.11	0.12	0.94	.349	.833
Cholesterol	Lab-grown – Cell-cultured	0.02	0.13	0.14	.886	.965
Cholesterol	Lab-grown – Cultivated	−0.09	0.13	−0.74	.457	.863
Iron	Cell-cultured – Control	0.22	0.12	1.87	.061	.426
Iron	Cultivated – Control	0.18	0.11	1.63	.102	.546
Iron	Lab-grown – Control	0.29	0.12	2.47	.013	.129
Iron	Cultivated – Cell-cultured	−0.03	0.11	−0.29	.775	.965
Iron	Lab-grown – Cell-cultured	0.07	0.12	0.61	.544	.918
Iron	Lab-grown – Cultivated	0.10	0.11	0.91	.364	.833
Satisfying	Cell-cultured – Control	−0.73	0.13	−5.47	<.001	<.001
Satisfying	Cultivated – Control	−0.50	0.13	−3.89	<.001	.002
Satisfying	Lab-grown – Control	−0.95	0.13	−7.04	<.001	<.001
Satisfying	Cultivated – Cell-cultured	0.23	0.14	1.67	.094	.546
Satisfying	Lab-grown – Cell-cultured	−0.22	0.14	−1.51	.132	.575
Satisfying	Lab-grown – Cultivated	−0.45	0.14	−3.22	.001	.015
Confident production	Cell-cultured – Control	−0.24	0.15	−1.57	.117	.564
Confident production	Cultivated – Control	−0.22	0.15	−1.44	.151	.603
Confident production	Lab-grown – Control	−0.04	0.15	−0.23	.819	.965
Confident production	Cultivated – Cell-cultured	0.01	0.16	0.09	.929	.965
Confident production	Lab-grown – Cell-cultured	0.20	0.16	1.25	.213	.682
Confident production	Lab-grown – Cultivated	0.19	0.16	1.13	.257	.757
Chemical composition	Cultivated – Cell-cultured	−0.08	0.15	−0.51	.612	.965
Chemical composition	Lab-grown – Cell-cultured	−0.20	0.15	−1.33	.184	.630
Chemical composition	Lab-grown – Cultivated	−0.13	0.16	−0.80	.423	.847
Nutritional similarity	Cultivated – Cell-cultured	−0.04	0.14	−0.26	.798	.965
Nutritional similarity	Lab-grown – Cell-cultured	−0.16	0.15	−1.11	.268	.757
Nutritional similarity	Lab-grown – Cultivated	−0.13	0.15	−0.84	.403	.847

Table W73: Study 7: Pairwise differences between labeling conditions for chicken, by property. Multiple comparison correction was applied across all comparisons within the product.

Property	Contrast	Estimate	SE	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
Calories	Cell-cultured – Control	−0.04	0.12	−0.32	.745	.832
Calories	Cultivated – Control	−0.18	0.11	−1.56	.120	.339
Calories	Lab-grown – Control	−0.03	0.12	−0.26	.798	.871
Calories	Cultivated – Cell-cultured	−0.14	0.12	−1.11	.266	.425
Calories	Lab-grown – Cell-cultured	0.01	0.13	0.07	.946	.946
Calories	Lab-grown – Cultivated	0.15	0.12	1.20	.231	.407
Protein	Cell-cultured – Control	−0.11	0.13	−0.84	.400	.565
Protein	Cultivated – Control	−0.21	0.13	−1.60	.110	.339
Protein	Lab-grown – Control	0.02	0.13	0.16	.872	.905
Protein	Cultivated – Cell-cultured	−0.10	0.13	−0.78	.438	.568
Protein	Lab-grown – Cell-cultured	0.13	0.13	0.96	.335	.503
Protein	Lab-grown – Cultivated	0.23	0.13	1.69	.092	.339
Fat	Cell-cultured – Control	−0.34	0.12	−2.71	.007	.057
Fat	Cultivated – Control	−0.22	0.12	−1.80	.071	.311
Fat	Lab-grown – Control	−0.17	0.12	−1.43	.153	.349
Fat	Cultivated – Cell-cultured	0.12	0.13	0.90	.370	.537
Fat	Lab-grown – Cell-cultured	0.17	0.13	1.30	.194	.405
Fat	Lab-grown – Cultivated	0.05	0.13	0.39	.695	.832
Calcium	Cell-cultured – Control	−0.20	0.14	−1.44	.150	.349
Calcium	Cultivated – Control	−0.32	0.14	−2.28	.023	.125
Calcium	Lab-grown – Control	−0.37	0.14	−2.69	.007	.057
Calcium	Cultivated – Cell-cultured	−0.12	0.15	−0.82	.413	.567
Calcium	Lab-grown – Cell-cultured	−0.17	0.14	−1.18	.237	.407
Calcium	Lab-grown – Cultivated	−0.05	0.15	−0.34	.731	.832
Vitamin D	Cell-cultured – Control	−0.17	0.14	−1.21	.227	.407
Vitamin D	Cultivated – Control	−0.36	0.15	−2.42	.015	.105
Vitamin D	Lab-grown – Control	−0.33	0.15	−2.27	.024	.125
Vitamin D	Cultivated – Cell-cultured	−0.18	0.15	−1.18	.236	.407
Vitamin D	Lab-grown – Cell-cultured	−0.16	0.15	−1.04	.300	.465
Vitamin D	Lab-grown – Cultivated	0.02	0.16	0.14	.886	.905
Creamy	Cell-cultured – Control	−0.14	0.12	−1.15	.249	.413
Creamy	Cultivated – Control	−0.18	0.12	−1.51	.130	.348
Creamy	Lab-grown – Control	−0.38	0.12	−3.24	.001	.019
Creamy	Cultivated – Cell-cultured	−0.04	0.13	−0.34	.734	.832
Creamy	Lab-grown – Cell-cultured	−0.24	0.12	−1.93	.053	.256
Creamy	Lab-grown – Cultivated	−0.20	0.12	−1.58	.113	.339
Confident production	Cell-cultured – Control	0.04	0.15	0.23	.817	.871
Confident production	Cultivated – Control	0.25	0.16	1.58	.115	.339
Confident production	Lab-grown – Control	0.72	0.16	4.48	<.001	<.001
Confident production	Cultivated – Cell-cultured	0.22	0.17	1.31	.190	.405
Confident production	Lab-grown – Cell-cultured	0.69	0.17	4.12	<.001	.001
Confident production	Lab-grown – Cultivated	0.47	0.17	2.69	.007	.057
Chemical composition	Cultivated – Cell-cultured	−0.12	0.16	−0.79	.430	.568
Chemical composition	Lab-grown – Cell-cultured	−0.23	0.16	−1.47	.142	.349
Chemical composition	Lab-grown – Cultivated	−0.10	0.15	−0.67	.502	.634
Nutritional similarity	Cultivated – Cell-cultured	0.06	0.15	0.40	.691	.832
Nutritional similarity	Lab-grown – Cell-cultured	−0.18	0.15	−1.21	.226	.407
Nutritional similarity	Lab-grown – Cultivated	−0.23	0.15	−1.60	.111	.339

Table W74: Study 7: Pairwise differences between labeling conditions for milk, by property. Multiple comparison correction was applied across all comparisons within the product.

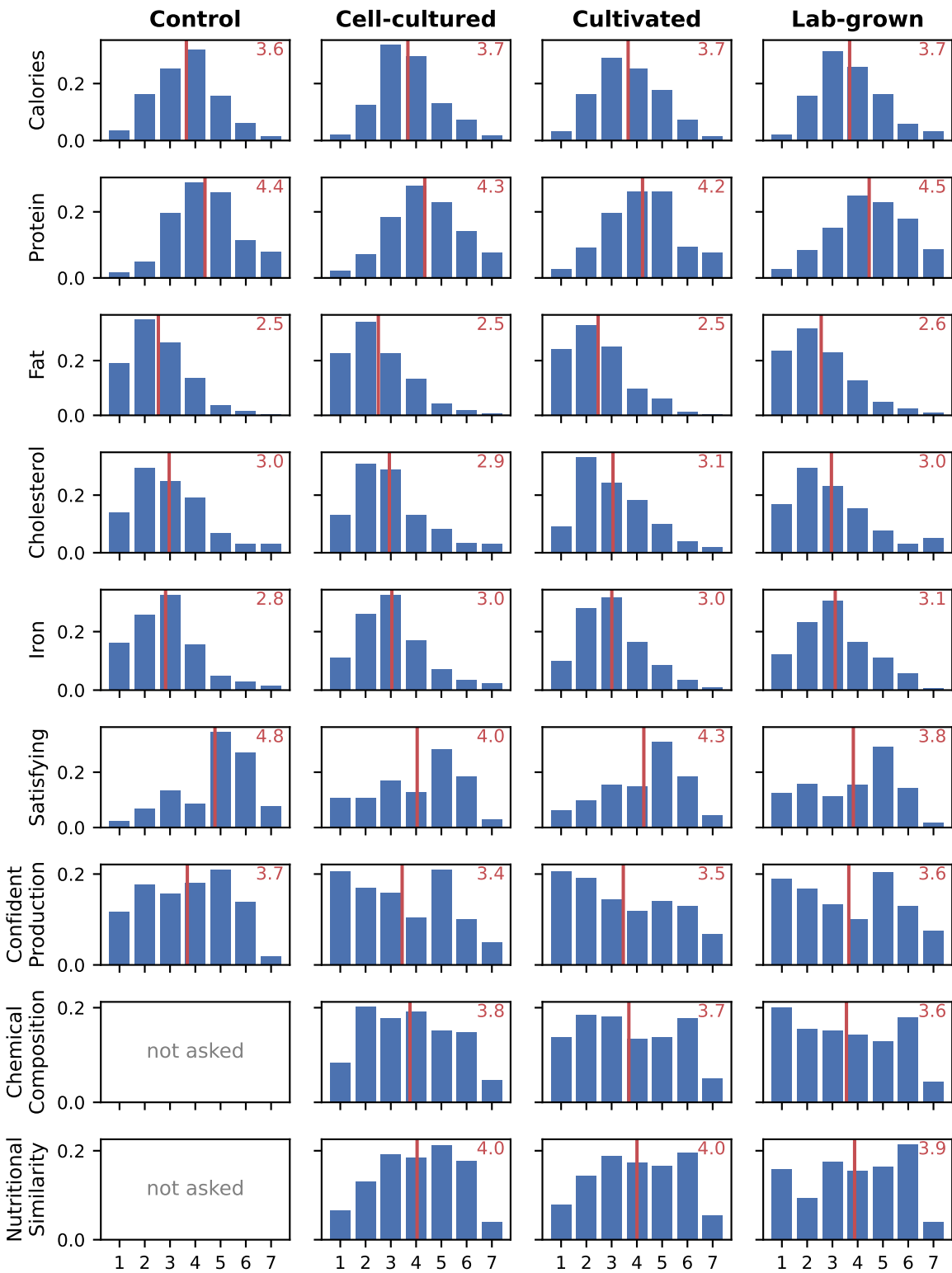


Figure W27: Study 7: Distributions of responses to each question by labeling condition for chicken. Red lines indicate condition means.

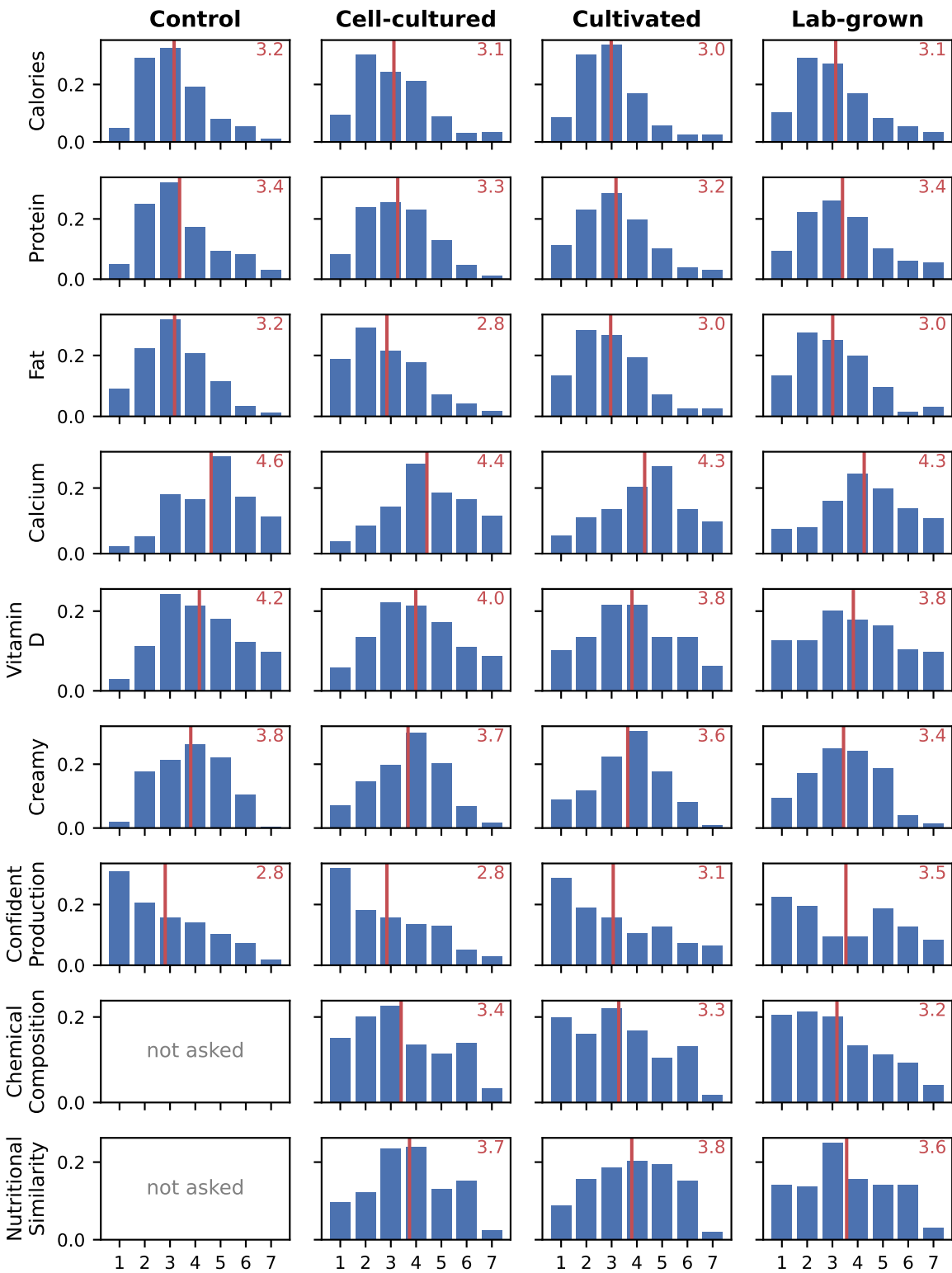


Figure W28: Study 7: Distributions of responses to each question by labeling condition for milk. Red lines indicate condition means.

Property	Contrast	Cliff's δ	Lower CI	Upper CI
Calories	Cell-cultured – Control	0.00	−0.10	0.10
Calories	Cultivated – Control	0.00	−0.10	0.09
Calories	Lab-grown – Control	0.00	−0.10	0.10
Calories	Cultivated – Cell-cultured	−0.01	−0.10	0.09
Calories	Lab-grown – Cell-cultured	−0.01	−0.10	0.09
Calories	Lab-grown – Cultivated	0.00	−0.09	0.10
Protein	Cell-cultured – Control	−0.01	−0.10	0.09
Protein	Cultivated – Control	−0.06	−0.16	0.04
Protein	Lab-grown – Control	0.04	−0.05	0.14
Protein	Cultivated – Cell-cultured	−0.04	−0.14	0.04
Protein	Lab-grown – Cell-cultured	0.05	−0.04	0.14
Protein	Lab-grown – Cultivated	0.10	0.00	0.20
Fat	Cell-cultured – Control	−0.03	−0.12	0.07
Fat	Cultivated – Control	−0.05	−0.14	0.05
Fat	Lab-grown – Control	−0.02	−0.10	0.08
Fat	Cultivated – Cell-cultured	−0.02	−0.11	0.08
Fat	Lab-grown – Cell-cultured	0.01	−0.08	0.11
Fat	Lab-grown – Cultivated	0.03	−0.06	0.12
Cholesterol	Cell-cultured – Control	−0.01	−0.10	0.08
Cholesterol	Cultivated – Control	0.04	−0.05	0.14
Cholesterol	Lab-grown – Control	−0.02	−0.12	0.07
Cholesterol	Cultivated – Cell-cultured	0.05	−0.04	0.15
Cholesterol	Lab-grown – Cell-cultured	−0.01	−0.10	0.08
Cholesterol	Lab-grown – Cultivated	−0.06	−0.15	0.03
Iron	Cell-cultured – Control	0.09	−0.01	0.18
Iron	Cultivated – Control	0.08	−0.01	0.18
Iron	Lab-grown – Control	0.12	0.03	0.21
Iron	Cultivated – Cell-cultured	−0.01	−0.10	0.09
Iron	Lab-grown – Cell-cultured	0.03	−0.06	0.12
Iron	Lab-grown – Cultivated	0.04	−0.05	0.14
Satisfying	Cell-cultured – Control	−0.25	−0.33	−0.16
Satisfying	Cultivated – Control	−0.19	−0.28	−0.10
Satisfying	Lab-grown – Control	−0.32	−0.41	−0.23
Satisfying	Cultivated – Cell-cultured	0.07	−0.02	0.16
Satisfying	Lab-grown – Cell-cultured	−0.07	−0.17	0.02
Satisfying	Lab-grown – Cultivated	−0.14	−0.24	−0.05
Confident production	Cell-cultured – Control	−0.08	−0.18	0.02
Confident production	Cultivated – Control	−0.08	−0.18	0.01
Confident production	Lab-grown – Control	−0.02	−0.11	0.08
Confident production	Cultivated – Cell-cultured	0.00	−0.09	0.10
Confident production	Lab-grown – Cell-cultured	0.06	−0.04	0.15
Confident production	Lab-grown – Cultivated	0.05	−0.04	0.15
Chemical composition	Cultivated – Cell-cultured	−0.03	−0.12	0.06
Chemical composition	Lab-grown – Cell-cultured	−0.07	−0.16	0.03
Chemical composition	Lab-grown – Cultivated	−0.04	−0.14	0.06
Nutritional similarity	Cultivated – Cell-cultured	−0.01	−0.11	0.08
Nutritional similarity	Lab-grown – Cell-cultured	−0.04	−0.13	0.06
Nutritional similarity	Lab-grown – Cultivated	−0.03	−0.13	0.07

Table W75: Study 7: Cliff's delta between each pair of labeling conditions for chicken, by property. Confidence intervals are bootstrapped 95% confidence intervals.

Property	Contrast	Cliff's δ	Lower CI	Upper CI
Calories	Cell-cultured – Control	−0.03	−0.13	0.07
Calories	Cultivated – Control	−0.08	−0.18	0.02
Calories	Lab-grown – Control	−0.04	−0.13	0.06
Calories	Cultivated – Cell-cultured	−0.05	−0.14	0.05
Calories	Lab-grown – Cell-cultured	−0.01	−0.10	0.10
Calories	Lab-grown – Cultivated	0.04	−0.06	0.14
Protein	Cell-cultured – Control	−0.02	−0.12	0.09
Protein	Cultivated – Control	−0.07	−0.17	0.03
Protein	Lab-grown – Control	0.00	−0.09	0.10
Protein	Cultivated – Cell-cultured	−0.05	−0.15	0.05
Protein	Lab-grown – Cell-cultured	0.02	−0.08	0.12
Protein	Lab-grown – Cultivated	0.07	−0.03	0.17
Fat	Cell-cultured – Control	−0.16	−0.26	−0.06
Fat	Cultivated – Control	−0.11	−0.20	−0.01
Fat	Lab-grown – Control	−0.09	−0.18	0.01
Fat	Cultivated – Cell-cultured	0.06	−0.04	0.16
Fat	Lab-grown – Cell-cultured	0.08	−0.03	0.17
Fat	Lab-grown – Cultivated	0.02	−0.08	0.12
Calcium	Cell-cultured – Control	−0.07	−0.17	0.03
Calcium	Cultivated – Control	−0.11	−0.21	−0.01
Calcium	Lab-grown – Control	−0.12	−0.22	−0.03
Calcium	Cultivated – Cell-cultured	−0.03	−0.13	0.07
Calcium	Lab-grown – Cell-cultured	−0.05	−0.16	0.05
Calcium	Lab-grown – Cultivated	−0.02	−0.12	0.07
Vitamin D	Cell-cultured – Control	−0.06	−0.16	0.04
Vitamin D	Cultivated – Control	−0.12	−0.22	−0.02
Vitamin D	Lab-grown – Control	−0.10	−0.20	−0.01
Vitamin D	Cultivated – Cell-cultured	−0.06	−0.16	0.05
Vitamin D	Lab-grown – Cell-cultured	−0.05	−0.15	0.05
Vitamin D	Lab-grown – Cultivated	0.01	−0.09	0.10
Creamy	Cell-cultured – Control	−0.05	−0.15	0.05
Creamy	Cultivated – Control	−0.07	−0.17	0.04
Creamy	Lab-grown – Control	−0.15	−0.25	−0.06
Creamy	Cultivated – Cell-cultured	−0.02	−0.12	0.09
Creamy	Lab-grown – Cell-cultured	−0.10	−0.20	−0.01
Creamy	Lab-grown – Cultivated	−0.08	−0.18	0.01
Confident production	Cell-cultured – Control	0.01	−0.09	0.10
Confident production	Cultivated – Control	0.06	−0.04	0.16
Confident production	Lab-grown – Control	0.20	0.10	0.30
Confident production	Cultivated – Cell-cultured	0.06	−0.04	0.15
Confident production	Lab-grown – Cell-cultured	0.19	0.09	0.29
Confident production	Lab-grown – Cultivated	0.13	0.03	0.23
Chemical composition	Cultivated – Cell-cultured	−0.04	−0.14	0.06
Chemical composition	Lab-grown – Cell-cultured	−0.08	−0.18	0.02
Chemical composition	Lab-grown – Cultivated	−0.04	−0.14	0.06
Nutritional similarity	Cultivated – Cell-cultured	0.02	−0.08	0.12
Nutritional similarity	Lab-grown – Cell-cultured	−0.07	−0.17	0.03
Nutritional similarity	Lab-grown – Cultivated	−0.08	−0.18	0.01

Table W76: Study 7: Cliff's delta between each pair of labeling conditions for milk, by property. Confidence intervals are bootstrapped 95% confidence intervals.

Property	Condition A	Condition B	U	Unadj. p	Adj. p
Calories	Cell-cultured	Control	36789.0	.977	.977
Calories	Control	Cultivated	36963.0	.946	.977
Calories	Control	Lab-grown	37213.5	.953	.977
Calories	Cell-cultured	Cultivated	38590.5	.902	.977
Calories	Cell-cultured	Lab-grown	38826.0	.920	.977
Calories	Cultivated	Lab-grown	38558.5	.964	.977
Protein	Cell-cultured	Control	36399.5	.805	.974
Protein	Control	Cultivated	39002.0	.226	.691
Protein	Control	Lab-grown	35551.0	.387	.757
Protein	Cell-cultured	Cultivated	40109.5	.344	.757
Protein	Cell-cultured	Lab-grown	36668.5	.288	.727
Protein	Cultivated	Lab-grown	34952.0	.047	.375
Fat	Cell-cultured	Control	35716.5	.524	.867
Fat	Control	Cultivated	38575.5	.326	.757
Fat	Control	Lab-grown	37756.0	.715	.974
Fat	Cell-cultured	Cultivated	38977.5	.737	.974
Fat	Cell-cultured	Lab-grown	38188.0	.805	.974
Fat	Cultivated	Lab-grown	37577.0	.562	.892
Cholesterol	Cell-cultured	Control	36325.0	.772	.974
Cholesterol	Control	Cultivated	35375.5	.410	.757
Cholesterol	Control	Lab-grown	38000.0	.619	.928
Cholesterol	Cell-cultured	Cultivated	36336.0	.268	.719
Cholesterol	Cell-cultured	Lab-grown	39122.5	.795	.974
Cholesterol	Cultivated	Lab-grown	41082.0	.186	.638
Iron	Cell-cultured	Control	39959.5	.079	.476
Iron	Control	Cultivated	33919.0	.099	.476
Iron	Control	Lab-grown	32779.5	.015	.149
Iron	Cell-cultured	Cultivated	38615.5	.891	.977
Iron	Cell-cultured	Lab-grown	37325.0	.475	.845
Iron	Cultivated	Lab-grown	37053.0	.389	.757
Satisfying	Cell-cultured	Control	27682.0	<.001	<.001
Satisfying	Control	Cultivated	43761.0	<.001	.002
Satisfying	Control	Lab-grown	49083.0	<.001	<.001
Satisfying	Cell-cultured	Cultivated	35692.5	.148	.591
Satisfying	Cell-cultured	Lab-grown	41463.5	.129	.563
Satisfying	Cultivated	Lab-grown	44204.5	.003	.033
Confident production	Cell-cultured	Control	33824.0	.094	.476
Confident production	Control	Cultivated	39817.5	.099	.476
Confident production	Control	Lab-grown	37700.5	.744	.974
Confident production	Cell-cultured	Cultivated	38307.5	.976	.977
Confident production	Cell-cultured	Lab-grown	36401.0	.230	.691
Confident production	Cultivated	Lab-grown	36576.0	.269	.719
Chemical composition	Cell-cultured	Cultivated	39405.0	.576	.892
Chemical composition	Cell-cultured	Lab-grown	41226.0	.167	.617
Chemical composition	Cultivated	Lab-grown	40215.5	.400	.757
Nutritional similarity	Cell-cultured	Cultivated	38806.5	.812	.974
Nutritional similarity	Cell-cultured	Lab-grown	40207.5	.402	.757
Nutritional similarity	Cultivated	Lab-grown	39886.5	.505	.866

Table W77: Study 7: Mann–Whitney U tests comparing each pair of labeling conditions for chicken, by property. A correction for multiple comparisons was applied within each product.

Property	Condition A	Condition B	U	Unadj. p	Adj. p
Calories	Cell-cultured	Control	30815.5	.547	.709
Calories	Control	Cultivated	34256.5	.097	.316
Calories	Control	Lab-grown	37092.0	.449	.616
Calories	Cell-cultured	Cultivated	29564.5	.348	.522
Calories	Cell-cultured	Lab-grown	32067.0	.913	.930
Calories	Cultivated	Lab-grown	30497.0	.427	.603
Protein	Cell-cultured	Control	31155.0	.699	.780
Protein	Control	Cultivated	33838.0	.167	.400
Protein	Control	Lab-grown	35624.0	.930	.930
Protein	Cell-cultured	Cultivated	29655.0	.321	.496
Protein	Cell-cultured	Lab-grown	31147.5	.643	.773
Protein	Cultivated	Lab-grown	29492.5	.157	.397
Fat	Cell-cultured	Control	26699.0	.002	.024
Fat	Control	Cultivated	35047.0	.032	.176
Fat	Control	Lab-grown	38849.0	.078	.313
Fat	Cell-cultured	Cultivated	26561.5	.261	.486
Fat	Cell-cultured	Lab-grown	29479.5	.132	.374
Fat	Cultivated	Lab-grown	31131.5	.695	.780
Calcium	Cell-cultured	Control	29449.0	.148	.396
Calcium	Control	Cultivated	34985.5	.037	.176
Calcium	Control	Lab-grown	40225.5	.011	.091
Calcium	Cell-cultured	Cultivated	29056.0	.562	.710
Calcium	Cell-cultured	Lab-grown	33563.5	.301	.496
Calcium	Cultivated	Lab-grown	32458.0	.664	.777
Vitamin D	Cell-cultured	Control	29950.0	.258	.486
Vitamin D	Control	Cultivated	35263.0	.024	.165
Vitamin D	Control	Lab-grown	39533.0	.033	.176
Vitamin D	Cell-cultured	Cultivated	29834.5	.268	.486
Vitamin D	Cell-cultured	Lab-grown	33506.0	.319	.496
Vitamin D	Cultivated	Lab-grown	31596.0	.920	.930
Creamy	Cell-cultured	Control	30153.5	.311	.496
Creamy	Control	Cultivated	33716.0	.193	.421
Creamy	Control	Lab-grown	41166.0	.002	.025
Creamy	Cell-cultured	Cultivated	28662.0	.754	.822
Creamy	Cell-cultured	Lab-grown	35053.5	.049	.214
Creamy	Cultivated	Lab-grown	34440.5	.094	.316
Confident production	Cell-cultured	Control	31986.5	.894	.930
Confident production	Control	Cultivated	29635.0	.210	.438
Confident production	Control	Lab-grown	28635.5	<.001	.002
Confident production	Cell-cultured	Cultivated	26599.5	.274	.486
Confident production	Cell-cultured	Lab-grown	25712.5	<.001	.003
Confident production	Cultivated	Lab-grown	27612.0	.010	.091
Chemical composition	Cell-cultured	Cultivated	29206.0	.496	.662
Chemical composition	Cell-cultured	Lab-grown	34419.5	.118	.354
Chemical composition	Cultivated	Lab-grown	33108.0	.402	.585
Nutritional similarity	Cell-cultured	Cultivated	27523.0	.644	.773
Nutritional similarity	Cell-cultured	Lab-grown	33995.5	.193	.421
Nutritional similarity	Cultivated	Lab-grown	34421.5	.099	.316

Table W78: Study 7: Mann–Whitney U tests comparing each pair of labeling conditions for milk, by property. A correction for multiple comparisons was applied within each product.

Product	Contrast	Condition	Estimate	SE	Lower CI	Upper CI	<i>t</i>	Unadj. <i>p</i>	Adj. <i>p</i>
Chicken	Calories – Fat	Control	1.11	0.13	0.86	1.36	8.66	<.001	<.001
Chicken	Calories – Fat	Cell-cultured	1.17	0.13	0.92	1.42	9.33	<.001	<.001
Chicken	Calories – Fat	Cultivated	1.19	0.13	0.94	1.43	9.47	<.001	<.001
Chicken	Calories – Fat	Lab-grown	1.13	0.12	0.88	1.37	9.01	<.001	<.001
Milk	Creaminess – Fat	Control	0.64	0.13	0.38	0.90	4.79	<.001	<.001
Milk	Creaminess – Fat	Cell-cultured	0.84	0.14	0.56	1.11	5.91	<.001	<.001
Milk	Creaminess – Fat	Cultivated	0.68	0.14	0.40	0.95	4.76	<.001	<.001
Milk	Creaminess – Fat	Lab-grown	0.43	0.13	0.17	0.69	3.22	.001	.001

Table W79: Study 7: Positive controls contrasting estimates for calories versus fat (chicken) and creaminess versus fat (milk) within each condition. Multiple comparison correction was applied across the four conditions within each product.

Product	Contrast	Condition	<i>U</i>	Unadj. <i>p</i>	Adj. <i>p</i>
Chicken	Calories vs. Fat	Control	52275.5	<.001	<.001
Chicken	Calories vs. Fat	Cell-cultured	57653.0	<.001	<.001
Chicken	Calories vs. Fat	Cultivated	57206.5	<.001	<.001
Chicken	Calories vs. Fat	Lab-grown	57040.5	<.001	<.001
Milk	Creaminess vs. Fat	Control	45225.5	<.001	<.001
Milk	Creaminess vs. Fat	Cell-cultured	37879.5	<.001	<.001
Milk	Creaminess vs. Fat	Cultivated	36299.5	<.001	<.001
Milk	Creaminess vs. Fat	Lab-grown	42694.0	<.001	<.001

Table W80: Study 7: Mann–Whitney *U* tests for the positive control contrasts within each condition. Multiple comparison correction was applied across the four conditions within each product.

WEB APPENDIX F: CATEGORY INDUCTION

In the argument strength survey, 501 participants were recruited. Each participant answered two attention checks of the same form as the other questions (e.g., “Given that milk tends to have property P, select option ‘Somewhat likely’”). Participants who failed either attention check were excluded (34 participants), leaving 467. In the properties survey, 402 participants were recruited. Two attention checks were embedded in the rating grids, and participants who failed either were excluded (4 participants), leaving 398. No other exclusion criteria were applied in either survey.

In the argument strength survey, we also compared, for each product in each labeling condition, the argument strengths from its two categories with Wilcoxon signed-rank tests (Table W82). All 18 comparisons were significant (all $p < .001$) and were in the same direction irrespective of labeling condition: drinks supported inferences more strongly than milk, vegetables more strongly than rice, creamy spreads more strongly than mayonnaise, frozen desserts more strongly than ice cream, and plant-based proteins more strongly than meat, bacon, or burgers.

In the properties survey, we also compared for each property the proportion of ‘Depends’ responses in the two categories with a two-proportion z-test. Of the 67 ‘Depends’ comparisons, 42 were significant (Table W84) with the broader category of the pair having a higher proportion of such responses.

Pair	Comparison	Treat.	Control	U	p
almond milk / almond drink	milk	4.14	4.10	26743	.725
	drinks	5.00	5.08	27737.5	.729
	milk – drinks	−0.86	−0.98	26977.5	.852
oat milk / oat drink	milk	4.11	4.04	26407.5	.556
	drinks	4.98	4.97	26676.5	.687
	milk – drinks	−0.87	−0.93	27053.5	.893
cauliflower rice / finely chopped cauliflower	rice	3.76	3.45	30256.5	.035
	vegetables	5.64	5.88	23451	.006
	rice – vegetables	−1.88	−2.43	31450.5	.004
vegan ice cream / vegan frozen dessert	ice cream	4.10	4.04	26676	.688
	frozen desserts	4.77	4.93	28748.5	.287
	ice cream – frozen desserts	−0.67	−0.90	24285.5	.035
vegan mayonnaise / creamy vegan spread	mayonnaise	4.17	3.94	24953.5	.107
	creamy spreads	4.70	5.14	32348.5	<.001
	mayonnaise – creamy spreads	−0.54	−1.21	20456.5	<.001
plant-based burgers / plant-based patties	meat	3.10	3.29	25037	.121
	burgers	3.76	3.79	26912	.815
	plant-based proteins	5.95	5.94	27817.5	.679
	meat – plant-based proteins	−2.86	−2.65	25283	.172
	burgers – plant-based proteins	−2.19	−2.15	26615	.661
veggie bacon / crispy veggie strips	meat	2.98	2.45	32893.5	<.001
	bacon	3.31	2.82	32953.5	<.001
	plant-based proteins	5.50	4.68	36647.5	<.001
	meat – plant-based proteins	−2.53	−2.23	24146.5	.032
	bacon – plant-based proteins	−2.19	−1.87	24471	.054

Table W81: Study 8: Mann–Whitney U tests comparing the treatment and control labels of each specific product category pair on the argument strength from each broad category and on the within-participant difference between the two broad categories. Treat. and Control columns give mean argument strength (or mean difference) under the treatment and control label.

Product	Category comparison	Mean 1	Mean 2	<i>W</i>	<i>p</i>
almond milk	milk – drinks	4.14	5.00	3751	<.001
almond drink	milk – drinks	4.10	5.08	2995.5	<.001
oat milk	milk – drinks	4.11	4.98	2590.5	<.001
oat drink	milk – drinks	4.04	4.97	2735	<.001
cauliflower rice	rice – vegetables	3.76	5.64	1274.5	<.001
finely chopped cauliflower	rice – vegetables	3.45	5.88	709	<.001
vegan ice cream	ice cream – frozen desserts	4.10	4.77	1519.5	<.001
vegan frozen dessert	ice cream – frozen desserts	4.04	4.93	1652.5	<.001
vegan mayonnaise	mayonnaise – creamy spreads	4.17	4.70	2601.5	<.001
creamy vegan spread	mayonnaise – creamy spreads	3.94	5.14	689	<.001
plant-based burgers	meat – plant-based proteins	3.10	5.95	243.5	<.001
plant-based patties	meat – plant-based proteins	3.29	5.94	251.5	<.001
plant-based burgers	burgers – plant-based proteins	3.76	5.95	676	<.001
plant-based patties	burgers – plant-based proteins	3.79	5.94	584	<.001
veggie bacon	meat – plant-based proteins	2.98	5.50	794.5	<.001
crispy veggie strips	meat – plant-based proteins	2.45	4.68	220.5	<.001
veggie bacon	bacon – plant-based proteins	3.31	5.50	947.5	<.001
crispy veggie strips	bacon – plant-based proteins	2.82	4.68	1173	<.001

Table W82: Study 8: Wilcoxon signed-rank tests comparing, for each product within each labeling condition, the argument strength from its categories. Mean 1 and Mean 2 show the mean argument strength across participants for the first and second category in the Category comparison column.

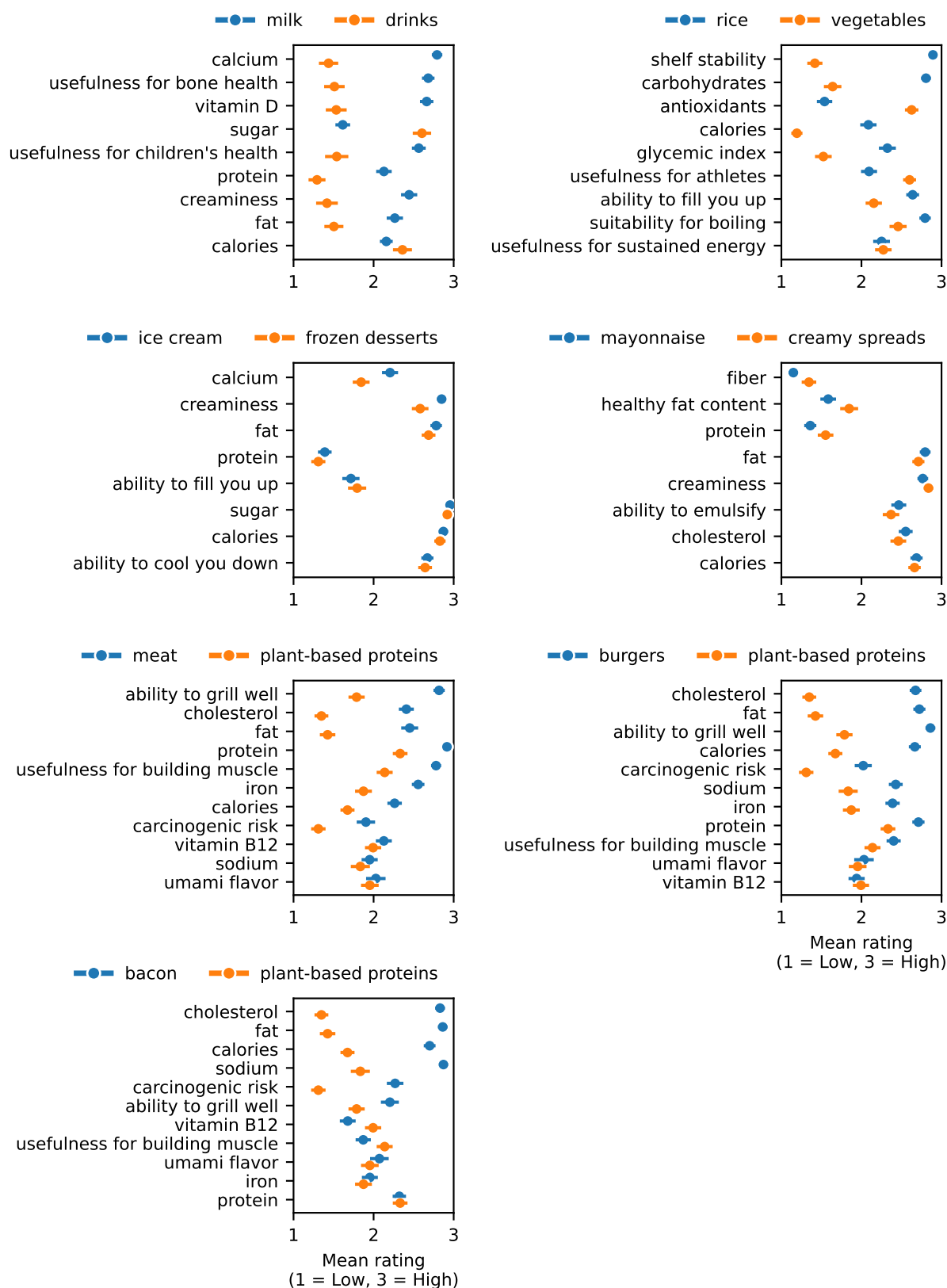


Figure W29: Study 8: Mean rating of each property for the two categories in each pair, excluding 'Depends' responses. Error bars are 95% confidence intervals.

Category 1	Category 2	Property	Mean 1	Mean 2	<i>U</i>	<i>p</i>
milk	drinks	calcium	2.79	1.44	16748.5	<.001
		usefulness for bone health	2.68	1.51	16291	<.001
		vitamin D	2.66	1.53	14277	<.001
		sugar	1.61	2.60	2832	<.001
		usefulness for children's health	2.56	1.54	15722	<.001
		protein	2.13	1.29	17467	<.001
		creaminess	2.44	1.42	11585.5	<.001
		fat	2.27	1.50	13117.5	<.001
		calories	2.16	2.36	7368	.002
rice	vegetables	shelf stability	2.89	1.42	30461	<.001
		carbohydrates	2.81	1.64	28322.5	<.001
		antioxidants	1.54	2.63	4065	<.001
		calories	2.09	1.19	29949.5	<.001
		glycemic index	2.32	1.52	19822	<.001
		usefulness for athletes	2.09	2.60	10618	<.001
		ability to fill you up	2.64	2.15	24745	<.001
		suitability for boiling	2.79	2.46	18584	<.001
		usefulness for sustained energy	2.25	2.27	16660.5	.907
ice cream	frozen desserts	calcium	2.21	1.84	19427.5	<.001
		creaminess	2.85	2.58	14173.5	<.001
		fat	2.78	2.69	15553	.092
		protein	1.39	1.31	16968	.102
		ability to fill you up	1.72	1.79	15996.5	.302
		sugar	2.95	2.92	15857.5	.334
		calories	2.87	2.83	16079	.441
		ability to cool you down	2.67	2.64	18521.5	.811
mayonnaise	creamy spreads	fiber	1.15	1.34	14659	<.001
		healthy fat content	1.58	1.85	11236	<.001
		protein	1.36	1.55	13347.5	.003
		fat	2.80	2.71	17463.5	.052
		creaminess	2.77	2.84	15299.5	.109
		ability to emulsify	2.47	2.37	15081	.162
		cholesterol	2.55	2.46	16853	.162
		calories	2.69	2.66	17564.5	.574
meat	plant-based proteins	ability to grill well	2.82	1.79	23075	<.001
		cholesterol	2.41	1.35	24541	<.001
		fat	2.45	1.43	18723	<.001
		protein	2.92	2.33	26446.5	<.001
		usefulness for building muscle	2.78	2.14	26098	<.001
		iron	2.56	1.87	23301.5	<.001
		calories	2.26	1.67	21521	<.001
		carcinogenic risk	1.90	1.31	19343.5	<.001
		vitamin B12	2.13	1.99	15923.5	.061
		sodium	1.95	1.83	15021	.098
		umami flavor	2.03	1.95	11324.5	.371
burgers	plant-based proteins	cholesterol	2.68	1.35	30271	<.001
		fat	2.72	1.43	27707	<.001
		ability to grill well	2.86	1.79	25590	<.001
		calories	2.67	1.67	29454	<.001
		carcinogenic risk	2.02	1.31	23207	<.001
		sodium	2.43	1.83	22553	<.001

Category 1	Category 2	Property	Mean 1	Mean 2	U	p
bacon	plant-based proteins	iron	2.39	1.87	23211.5	<.001
		protein	2.71	2.33	23767	<.001
		usefulness for building muscle	2.40	2.14	21157	<.001
		umami flavor	2.03	1.95	12444	.351
		vitamin B12	1.94	1.99	13933.5	.446
		cholesterol	2.83	1.35	32472	<.001
		fat	2.86	1.43	31735	<.001
		calories	2.70	1.67	30411.5	<.001
		sodium	2.87	1.83	26744	<.001
		carcinogenic risk	2.27	1.31	26191	<.001
		ability to grill well	2.20	1.79	19456	<.001
		vitamin B12	1.68	1.99	11506.5	<.001
		usefulness for building muscle	1.87	2.14	13891.5	<.001
		umami flavor	2.07	1.95	13467	.141
		iron	1.95	1.87	17806.5	.275
		protein	2.32	2.33	17443.5	.740

Table W83: Study 8: Mann–Whitney U tests comparing the categories in each pair on the mean rating of each property, excluding ‘Depends’ responses (1 = Low, 3 = High). Mean 1 and Mean 2 correspond to Category 1 and Category 2.

Category 1	Category 2	Property	Prop. 1	Prop. 2	z	p
milk	drinks	usefulness for bone health	0.04	0.52	-10.60	<.001
		calcium	0.06	0.52	-10.04	<.001
		vitamin D	0.10	0.55	-9.64	<.001
		usefulness for children's health	0.07	0.48	-9.25	<.001
		protein	0.07	0.41	-8.02	<.001
		sugar	0.13	0.46	-7.31	<.001
		creaminess	0.24	0.54	-6.04	<.001
		calories	0.18	0.44	-5.60	<.001
		fat	0.34	0.36	-0.39	.697
rice	vegetables	carbohydrates	0.02	0.17	-5.15	<.001
		suitability for boiling	0.05	0.23	-5.12	<.001
		shelf stability	0.02	0.17	-5.04	<.001
		usefulness for sustained energy	0.03	0.13	-3.96	<.001
		glycemic index	0.12	0.27	-3.73	<.001
		ability to fill you up	0.01	0.08	-3.08	.002
		calories	0.02	0.06	-2.06	.039
		antioxidants	0.11	0.15	-1.09	.277
		usefulness for athletes	0.05	0.08	-1.06	.290
ice cream	frozen desserts	calcium	0.05	0.19	-4.23	<.001
		ability to fill you up	0.03	0.12	-3.31	<.001
		ability to cool you down	0.01	0.07	-2.92	.004
		creaminess	0.17	0.29	-2.80	.005
		protein	0.07	0.15	-2.78	.005
		fat	0.13	0.16	-0.89	.371
		calories	0.10	0.12	-0.36	.723
		sugar	0.12	0.12	-0.04	.971
mayonnaise	creamy spreads	protein	0.03	0.18	-4.82	<.001
		cholesterol	0.05	0.17	-3.75	<.001
		fiber	0.03	0.11	-3.02	.003
		ability to emulsify	0.11	0.21	-2.65	.008
		fat	0.07	0.13	-1.89	.059
		calories	0.06	0.09	-1.20	.229
		healthy fat content	0.14	0.18	-0.86	.388
		creaminess	0.08	0.10	-0.73	.465
meat	plant-based proteins	fat	0.39	0.09	7.12	<.001
		calories	0.20	0.07	3.77	<.001
		cholesterol	0.20	0.10	2.88	.004
		vitamin B12	0.10	0.19	-2.60	.009
		carcinogenic risk	0.22	0.14	2.18	.029
		usefulness for building muscle	0.04	0.09	-1.65	.099
		sodium	0.19	0.15	1.16	.246
		protein	0.04	0.07	-1.10	.272
		umami flavor	0.28	0.25	0.74	.462
		ability to grill well	0.17	0.19	-0.44	.663
		iron	0.11	0.12	-0.35	.726
burgers	plant-based proteins	iron	0.04	0.12	-3.21	.001
		sodium	0.06	0.15	-3.03	.002
		vitamin B12	0.09	0.19	-2.92	.003
		ability to grill well	0.10	0.19	-2.60	.009
		usefulness for building muscle	0.03	0.09	-2.39	.017
		fat	0.15	0.09	1.98	.047

Category 1	Category 2	Property	Prop. 1	Prop. 2	z	p
bacon	plant-based proteins	protein	0.03	0.07	-1.86	.063
		cholesterol	0.07	0.10	-0.92	.360
		umami flavor	0.21	0.25	-0.89	.373
		carcinogenic risk	0.11	0.14	-0.80	.424
		calories	0.07	0.07	-0.03	.978
		vitamin B12	0.04	0.19	-4.74	<.001
		ability to grill well	0.07	0.19	-3.79	<.001
		iron	0.04	0.12	-3.21	.001
		cholesterol	0.03	0.10	-2.87	.004
		sodium	0.06	0.15	-2.84	.005
		carcinogenic risk	0.07	0.14	-2.18	.029
		usefulness for building muscle	0.04	0.09	-2.13	.033
		umami flavor	0.17	0.25	-1.90	.057
		protein	0.04	0.07	-1.59	.111
		fat	0.05	0.09	-1.42	.155
		calories	0.05	0.07	-0.87	.386

Table W84: Study 8: Two-proportion z -tests comparing the categories in each pair on the proportion of ‘Depends too much on type of [category] to say’ responses for each property. Prop. 1 and Prop. 2 correspond to Category 1 and Category 2.

Pair	Properties
cauliflower rice / finely chopped cauliflower	ability to fill you up, antioxidants, calories, carbohydrates, glycemic index, shelf stability, suitability for boiling, usefulness for athletes
vegan ice cream / vegan frozen dessert	calcium, creaminess
vegan mayonnaise / creamy vegan spread	fiber, healthy fat content, protein
veggie bacon / crispy veggie strips	ability to grill well, calories, carcinogenic risk, cholesterol, fat, iron, protein, sodium, usefulness for building muscle, vitamin B12

Table W85: Study 8: For each pair of specific product categories whose argument strengths differed between the labels, the properties on which the pair’s broad categories significantly differed in the properties survey (mean comparisons excluding ‘Depends’ responses). Properties implicated via more than one broad-category pair are listed once.

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