U.S. FOOD & DRUG ADMINISTRATION

Quantitative Research on Front of Package Labeling on Packaged Foods

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Abstract

In an effort to reduce diet-related morbidity and mortality, the U.S. Food and Drug Administration (FDA or we) is prioritizing its nutrition initiatives to help improve dietary patterns in the United States. FDA's nutrition labeling efforts aim to empower consumers with nutrition-related information to help inform food choices (U.S. Food & Drug Administration, 2023). As part of these efforts, FDA is considering the establishment of a Front-of-Package (FOP) nutrition labeling system, which would require the front of most food labels and bulk food labeling to display certain nutrition information to help consumers, including those with lower nutrition knowledge, quickly and easily identify how foods can be part of a healthy diet.

This study included two independent experimental tasks, each with multiple outcome measures, run sequentially, that were built into a 15-minute online questionnaire (N=9,200). In the first task participants viewed three different nutrient profiles (healthiest, middle, least healthy) of a single FOP scheme and were asked to select the most and least healthy nutrient profile; each participant viewed a total of three randomly assigned schemes. In the second task participants viewed an FOP scheme that varied by nutrient profile on one of three mock food product labels (cereal, frozen meal, canned soup) and answered questions about the product and the FOP scheme, including questions regarding perceptions of healthfulness and nutrient content and their attitudes toward the scheme.

A total of eight schemes were tested, one using Guideline Daily Amount or GDA (a nutrient-specific, noninterpretive scheme) – which includes attributes of the industry-established "Facts Up Front" FOP scheme; five using "Nutrition Info" (a nutrient-specific, interpretive scheme) – mimicking the Nutrition Facts label design and providing interpretive nutrition information using high, medium, low designations; two using "High In" (a nutrient-specific, interpretive scheme) – listing only the nutrients to limit that have a percent Daily Value (%DV) of 20% or higher. All schemes tested appeared in the upper right of the mock food product label, with the exception of one of the Nutrition Info schemes that was tested in the lower right corner.

Schemes were first analyzed in three broad categories: 1. GDA (N=985), 2. Nutrition Info (N=4,935), and 3. High In (N=1,966). Results showed that participants viewing the High In schemes were significantly less likely to correctly identify the "healthiest" and "least healthy" nutrient profiles and took longer to answer these questions. Moreover, most of the ratings on the attitude and perception questions were significantly lower for the High In schemes than they

were for the GDA and Nutrition Info schemes. For questions asking participants to characterize the level of the nutrients to limit, participants viewing the GDA schemes were significantly less likely to correctly characterize the level of the nutrient. In an analysis comparing the five Nutrition Info schemes against each other, none performed better than the others across all measures, but participants were generally able to correctly characterize the level of the nutrient in products, and the versions that were black and white with %DV performed best in several instances.

Thus, in sum, without participants having prior knowledge or education about the schemes, the nutrient-specific, interpretive Nutrition Info schemes performed best overall in helping consumers identify healthier food options. High In schemes performed the worst among the schemes tested. Consumers reacted positively to the GDA concept but were less likely to use GDA to correctly identify product healthfulness. Results did not differ across demographic groups.

A. Background and Purpose

The United States continues to face an epidemic of diet-related chronic diseases, many of which are experienced disproportionately by racial and ethnic minority groups, those with lower socioeconomic status, and those living in rural areas (Refs. 1 and 2). To help address this, FDA has continued to prioritize its nutrition activities (Ref. 3) to help empower consumers with nutrition information they can use to make healthier choices more easily. FDA is focused on: (1) creating a healthier food supply for all; (2) establishing a healthy start to set the foundation for a long, healthy life; and (3) empowering consumers through informative labeling and tailored education (Ref. 3; see also Ref. 2).

FOP labeling is intended to complement the Nutrition Facts label by giving consumers a simple aid to provide additional context for making informed food selections. As part of our food-labeling efforts, we are developing a standardized, science-based FOP scheme that provides consumers, including those with lower nutrition knowledge, with interpretive nutrition information that can help them quickly and easily identify foods that are part of a healthy diet.

The increased attention in recent years to FOP and the experiences of countries that have adopted FOP labeling suggest that FOP labeling may aid nutrition comprehension and the ability to make healthier choices, especially for those with lower nutrition knowledge. FOP

schemes adopted in countries throughout the world include both mandatory and voluntary labeling schemes and noninterpretative, interpretative, nutrient specific, and summary schemes.

We began our current exploration of FOP labeling by conducting a systematic review of the scientific literature on FOP labels, the most recent version of which we made public in April 2023 (Ref. 4). Results of the literature review showed that FOP labels have been extensively studied and some large-scale literature reviews on FOP labels have been conducted. Certain overarching themes emerged from this literature review, including that: an FOP rating system or symbol can help consumers identify and select healthy foods and consumers generally prefer simple labels (Ref. 4). FDA used the findings from the literature to select scheme types and scheme features for focus group testing.

In 2022, FDA conducted its first set of focus groups to test FOP concepts and draft FOP labels, some of which we had included in the 2008 focus group testing (see Refs. 7 and 8). We tested variations of four FOP labeling schemes in these focus groups, which were based on schemes currently found in the U.S. and international marketplace: (1) Guideline Daily Amount (GDA); (2) Nutrition Tips; (3) Nutrition Tips – High In; and (4) High In (Ref. 8). The GDA scheme (nutrient specific, noninterpretive) listed calories, quantitative amount of nutrients (sometimes including both nutrients to limit (those that may be associated with adverse health effects and that Americans generally consume too much of—e.g., sodium, saturated fat, and added sugars) and nutrients to get enough of (those that Americans generally do not get the recommended amount of—e.g., fiber and calcium), and the adult proportion recommended for daily consumption represented by a serving of the food in both numerical (i.e., percent DV) and interpretive (i.e., “Low,” “Med,” “High”) form. This scheme resembled the voluntary Facts Up Front (FUF) scheme developed by the U.S. food industry. The Nutrition Tips scheme (nutrient specific, interpretive) mimicked the design of the Nutrition Facts label and included low, medium, and high interpretive descriptions about nutrient levels for saturated fat, sodium, and added sugars (and, in certain test schemes, fiber and calcium). The Nutrition Tips – High In scheme (nutrient specific, interpretive) also mimicked the Nutrition Facts label design, but it only listed a nutrient, its interpretive description, and corresponding percent DV when a serving of the product was “high in” saturated fat, sodium, or added sugars. The High In scheme (nutrient specific, interpretive) showed the nutrient(s) (and, in certain test schemes, the percent DV) in the product that, per serving, were considered high. In total, we tested 41 variations of these schemes – 14 GDA schemes, 12 Nutrition Tips schemes, 9 Nutrition Tips – High In schemes,

and 6 High In schemes (Ref. 8). We used these varied schemes to learn more about consumer reactions to the elements depicted (e.g., use of color, use of interpretive words, use of numbers) and to help us understand which FOP labeling schemes may be most useful to consumers.

Within the GDA category, we tested schemes that included both nutrients to limit (i.e., sodium, saturated fat, and added sugars) and nutrients to get enough of (i.e., fiber and calcium), schemes that used colors beyond black and white (i.e., red, yellow, green), schemes that included interpretive descriptions (i.e., low, medium, high) of nutrient levels, schemes that included quantitative nutrient level information (e.g., how much a nutrient in a single serving of food contributes to your daily diet (i.e., percent DV) and grams (g) or milligrams (mg) of a nutrient), and schemes that included descriptive terms (i.e., "avoid too much" or "get enough"). In the Nutrition Tips category, we tested schemes that included both nutrients to limit and nutrients to get enough of, schemes that used either black and white colors only or colors beyond black and white (e.g., red, yellow, and green), schemes that included and excluded interpretive descriptions regarding nutrient levels, schemes that included and excluded quantitative nutrient level information (i.e., percent DV), and schemes that included and excluded the use of an "FDA.gov" statement in the FOP labeling. In the Nutrition Tips – High In category, we tested different color variations (i.e., black on white compared to white on black) and the use of an abbreviated heading for "% Daily Value." In the High In category, we tested the inclusion of quantitative percent DV information.

These focus groups provided FDA with qualitative feedback and insight into the varying ways that consumers react to and comprehend FOP nutrition information and helped us understand which schemes might be most helpful for U.S. consumers to quickly and easily identify how foods can be part of a healthy diet (Ref. 9). Among other things, participants reported they believed that products bearing "High In" labels were not healthy (id.). Participants were also confused by the use of the colors red, yellow, and green when schemes contained both nutrients to limit and nutrients to get enough of (e.g., they had trouble interpreting the scheme when red indicated a high amount of a nutrient to limit and a low amount of a nutrient to get enough of) (id.).

We incorporated our learnings from the focus group testing and the information from the literature reviews to help inform the scheme types we chose to test in an experimental study (Refs. 8 and 9) to further explore consumer responses to various FOP labeling schemes. In this

experimental study, we tested a smaller subset of FOP labeling schemes from the focus group testing, with additional variations informed by, among other things, focus group results (Ref. 9)

The purpose of the experimental study was to identify which FOP schemes, in the absence of prior knowledge or education about them and without additional nutrition information, enabled participants to make quicker and more accurate decisions about the healthfulness of a product. In addition, the study examined a) participants' attitudes and perceptions about the schemes, b) consumers' perceptions of their ability to construct healthful dietary patterns using the schemes, and c) demographic differences.

B. Study Design and Procedures

This study included two independent experimental tasks, each with multiple outcome measures, run sequentially, that were built into a 15-minute online questionnaire (N=9,200). In the first task participants viewed three different nutrient profiles (healthiest [lowest levels of nutrients to limit], middle, least healthy [highest levels of nutrients to limit]) of a single FOP scheme and were asked to select the most and least healthy nutrient profile; each participant viewed a total of three randomly assigned FOP schemes. In the second task participants viewed an FOP scheme that varied by nutrient profile on one of three different food products (cereal, frozen entree, canned soup) and answered questions about the product, including questions about its healthfulness and nutrient content. The mock food product categories included in the experiment were those that are highly consumed by many consumers of all economic levels. There are a variety of foods in these categories, and the foods within each category can vary widely in terms of healthfulness. We scaled the schemes so the viewer would get a true sense of how they might look on a food package, using 7-point type font, while maintaining the scale and readability of both the FOP and the product label. This gave the participant the ability to zoom in on and out of the graphic. The participant could see the whole product label, including the FOP, and had the ability to see a smaller portion of the package where the FOP would be easier to read on a computer or tablet screen while maintaining the same sizing ratio as the original product.

Below we detail the different FOP schemes used in the experimental tasks and the key dependent measures. (See Appendix A for schemes and accompanying nutrient profiles tested in the experiment.)

Each scheme displayed information about saturated fat, sodium, and added sugars in three different design formats: Guideline Daily Amount (GDA), Nutrition Info, and High In. GDA schemes used a horizontal format to display nutrition information per serving, including the number of g or mg and %DV[1] for saturated fat, sodium, and added sugars. Nutrition Info schemes displayed interpretive information about saturated fat, sodium, and added sugars in a vertical, box format. Nutrition Info scheme variations included the display of color (or not), presentation of % Daily Value (or not) and one scheme with a magnifying glass graphic. High In schemes displayed nutrients to limit that a product is high in (i.e., containing 20% of the Daily Value of a nutrient or higher). The High In schemes included the display of the % Daily Value (or not).

FOP Comparison Task (Task 1)

The objective of the FOP comparison task was to determine which schemes led to quicker and more accurate decisions about the healthfulness of a product. Participants were randomly assigned to three out of eight potential FOP schemes, one scheme at a time. Three nutrient profiles were created for each FOP scheme (healthiest, middle, least healthy). The presentation order for FOP scheme and nutrient profile were randomized such that the schemes and the order of the profiles (which were shown first/last and left/right) were random, resulting in 336 experimental conditions (see Appendix A for FOP schemes and nutrient profiles).

If participants wanted additional nutrition information when reviewing the nutrient profiles, instructions indicated that they could click anywhere on any of the profiles for more detail. By doing so, the corresponding Nutrition Facts label was displayed, providing additional details about the specific nutrient levels (including %DV) of the scheme and the food's nutrient profile.

During the FOP Comparison Task, the following dependent measures were captured for each of the participants:

- Selection of the healthiest and least healthy nutrient profile for each scheme type;[2]
- Amount of time required to select the healthiest and least healthy nutrient profile; and

[1] The %DV shows how much a nutrient in a single serving contributes to the daily diet.

[2] Participants were asked to select which of the three nutrient profiles was the healthiest and least healthy only. Participants were not asked to select the middle healthy nutrient profile.

- Whether the Nutrition Facts label was viewed during selection of healthiest and least healthy nutrient profile.[3]

Single Product Evaluation Task (Task 2)

Following completion of the FOP Comparison Task, all participants completed the Single Product Evaluation Task. The objective of this task was to determine which FOP schemes were more accurately classified, were perceived more favorably, and facilitated greater understanding of nutrient content.

Participants were randomly assigned to one of nine FOP scheme conditions (eight schemes plus the "Nutrition Info Black and White with no %DV" scheme in the lower right corner of the food product label – as opposed to all other schemes placed in the upper right corner); one of three nutrient profiles per scheme (healthiest, middle, least healthy) on one of three product types (cereal, frozen entree, canned soup). The assignments resulted in 84 experimental conditions.

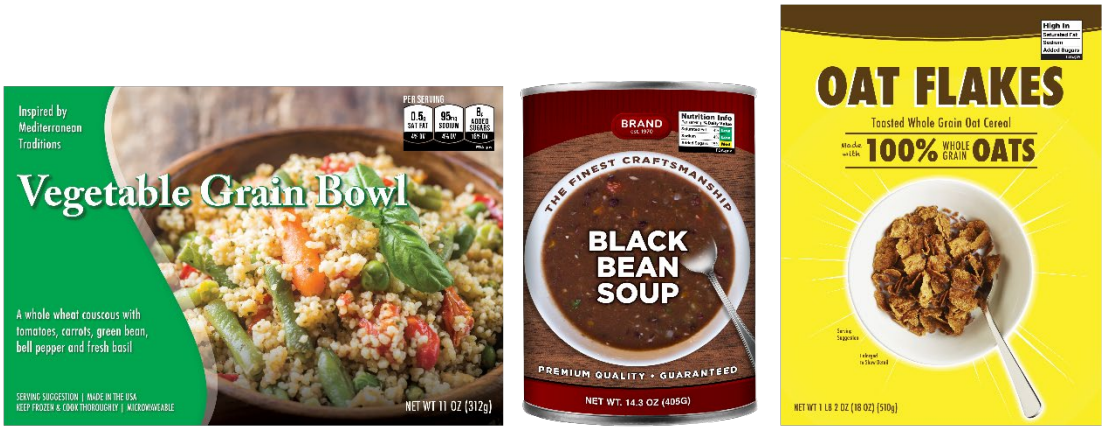
Exhibit 1 illustrates example stimuli used during the Single Product Evaluation Task. One stimulus was shown to participants while they answered questions about the following dependent measures:

- Knowledge of nutrient content (i.e., being able to correctly indicate whether the %DV for the nutrient to limit was low, high, or somewhere in the middle);
- Perceptions of product healthfulness;
- Beliefs about the product; and
- Attitudes toward the scheme.[4]

[3] If participants clicked on a scheme to view any of the Nutrition Facts Labels, they were asked upon completion of this task about their motivation for reviewing the Nutrition Facts Label.

[4] Questions 11A-11D asked participants about the FOP scheme they were viewing; thus, those in the no-scheme control condition were not asked these four questions.

Exhibit 1. Mock Food Product Labels Used in the Single Product Evaluation Section of the Experiment, Each with a Scheme Example.



Study Screener

The study screener collected demographic information (e.g., age, sex, race/ethnicity, education) and included an item measuring nutrition knowledge. Responses to these questions were used to determine eligibility for the cognitive interviews, pre-test, and main experiment. The study screener and the questionnaire are in Appendices B and C, respectively.

Sampling Frame and Eligibility

The sample for all phases of the study (cognitive interviews, pretest, main experiment) was drawn from a consumer panel vendor, Prodege, whose proprietary web panel contains roughly six million panelists from around the world. While Prodege's web panel is not reflective of the U.S. population, the panel was diverse enough to sample the required number of participants who met the study inclusion criteria (e.g., English-speaking, living in the U.S.) and obtain demographic quotas. Participants were excluded from the main experiment if they (a) participated in the cognitive interviews or pretest, (b) completed the questionnaire in less than five minutes (concluding from the cognitive interviews that participants could not have read and thoughtfully responded to the questions in less than five minutes), or (c) attempted to complete the study on a smartphone (participants were instructed to use a personal computer or tablet to complete the study. It was important for external validity that participants be able to clearly see the stimuli while they were answering the questions, with minimal to no scrolling needed).

Cognitive Interviews and Pre-Tests

Once content was finalized, the questionnaire was programmed for web administration. Following programming and internal testing, one round of cognitive interviews and one pretest were conducted prior to fielding the main experiment.

The purpose of the cognitive interviews was to assess participant comprehension and understanding of the questionnaire items and FOP schemes, ease of use, and time required to complete the questionnaire. The interview also collected participant input on the overall questionnaire experience. FDA conducted eight online interviews between June 22 and July 5, 2023, using the Zoom.gov platform. Participants were English-speaking U.S. residents aged 18 or over who: (a) had access to a laptop, desktop, or tablet; (b) had access to high-speed internet; (c) were comfortable using video conference platforms; and (d) did at least half of the household's grocery shopping. Participants were diverse in terms of age, sex, race, ethnicity, education level, rural residency, and nutrition knowledge level.

Results from the cognitive interviews provided suggestions for improving the overall display of the questionnaire, as follows:

- The font type for all items was changed from Arial to Calibri to make the questionnaire easier to read; and
- Minor wording revisions were made to question stems and response options (e.g., underlining or remove underlining of specific words; bolding some words presented in instructions).

Cognitive interviews revealed that participants had no problem understanding the meaning of the questions and response options and understanding how to correctly respond to each question. Specific changes made to the screener and questionnaire based on the cognitive interviews are described below.

Screener: Added a measure of nutrition motivation because the nutrition knowledge question alone resulted in a skewed distribution. Responses from both the nutrition motivation and nutrition knowledge questions were combined to create a composite measure.

FOP Comparison Task *(Task 1)*

- Added an item measuring motivation to help examine why participants would click on a scheme to display the corresponding Nutrition Facts label; and

- Ensured participants could choose the same FOP scheme for healthiest and least healthy choice selection within each scheme during the FOP Comparison Task.

Single-Product Evaluation Task *(Task 2)*

- Changed the response display from sliding scales to grid box response options for the Beltramini Believability Scale screen so that the product and response options were presented without participants needing to scroll;
- Added a semantic differential item measuring participant's assessment of the FOP scheme on a continuum of Simple to Complex; and
- Added a question to determine if participants understood information about % Daily Value from the Nutrition Facts label.

The purpose of the pretest was to identify any questions with high item nonresponse and ensure the randomization procedures operated as expected. The pretests were conducted from September 2-8, 2023, with 200 participants. All were English-speaking, U.S. residents aged 18 or over, and were diverse in terms of age, sex, race, ethnicity, education, rural residency and nutrition knowledge. Participants completed the instrument using a tablet, desktop, or laptop computer.

Results from the pretest showed high item response across questionnaire items. However, results also showed that the presentation order of schemes during the FOP Comparison Task was sequential instead of randomized. As a result, the algorithm was modified, and computer-generated dummy data (N = 200) tested and confirmed that the modified algorithm was performing as intended (i.e., randomly assigning participants correctly to all possible scheme order presentations). Randomization for all other independent variables in both experimental tasks showed an even distribution of participants across conditions.

Sampling Procedure and Demographic Characteristics

The sample was composed of 9,200 participants[5] and approximated Census benchmarks in terms of demographics such as age, sex, race, ethnicity, and education, but overrepresented

[5] A power analysis was conducted prior to data collection with a proposed sample size of N = 10,000. This sample size is sufficient to detect even small effects for both the FOP Comparison Task and Single-Product Evaluation Task. See Appendix D.

participants living in rural areas (see Table 1). In addition, as specified by sampling quotas, the recruited sample - and each cell in the experiment - was evenly divided between participants with high and low nutrition knowledge/motivation. Participation rates were monitored throughout data collection to ensure the desired demographic diversity was achieved.

Table 1. Demographic characteristics of study participants

VARIABLE	NUMBER	PERCENT[a]
Nutrition Knowledge		
Lower	4,601	50
Higher	4,599	50
Rural Resident		
No	7,159	78
Yes	2,041	22
Region		
Northeast	1,607	18
Midwest	2,181	24
South	3,520	38
West	1,892	21
Higher Education		
No	5,283	57
Yes	3,917	43
Gender		
Nonbinary	89	1
Female	4,902	53
Male	4,209	46
Race/Ethnicity		
Hispanic	1,250	14
Non-Hispanic Black	1,259	14
Non-Hispanic White	5,706	62
Asian	731	8
Other[b]	254	3
Age		
18-29	1,734	19
30-49	3,023	33
50-64	2,318	25
65+	2,125	23

[a]Percents for the variables may not add to 100 because of rounding.
[b]The "Other" race/ethnicity group includes Native Hawaiian or other Pacific Islander, American Indian or Alaska Native, and any non-Hispanic racial groups that are not mentioned.

Steps to Ensure Confidentiality

The panel vendor sampled from their web panel and thus had access to participants' names and email addresses. However, all electronic files provided used alphanumeric codes as identifiers. Neither FDA nor the contractor received any personally identifiable information (PII) from the panel vendor.

FDA's Institutional Review Board (IRB) declared the study exempt from full IRB review, and Westat's (the contractor) Institutional Review Board approved the study protocol prior to collecting any data. This study received clearance from the Office of Management and Budget (OMB) under OMB Control No. 0910-0920 on August 18, 2023.

Data Collection Procedures

Potential participants completed a screener at the beginning of the questionnaire, capturing their demographic characteristics. Following screener completion, those who were eligible to participate and met sampling quotas received a message on their screen indicating they qualified for the study. After reviewing the informed consent and agreeing to participate, participants were then randomly assigned to experimental conditions across both the FOP Comparison Task and Single Product Evaluation Task using simple randomization procedures. The questionnaire was launched on Monday, September 11, 2023, and was closed on Wednesday, October 4, 2023.

Cooperation Rate

The cooperation rate for the main experiment was 49 percent. This rate was calculated using the American Association for Public Opinion Research [AAPOR] (Ref. 10) Cooperation Rate 1, the most conservative AAPOR cooperation rate; dividing the number who attempted to complete the questionnaire by the number of participants who completed the questionnaire – the denominator includes those who attempted to complete the study on a cell phone (N = 2,951), completed the questionnaire in less than five minutes (N = 5,273), or were over quota following the screener and terminated prior to beginning the questionnaire (N = 4,091).

This rate was calculated as follows:

$$Cooperation\ Rate = \frac{Number\ of\ participants\ who\ completed\ the\ questionnaire}{Number\ who\ attempted\ to\ complete\ the\ questionnaire} = \frac{9{,}200}{18{,}606}$$
$$= 0.49$$

Data Analysis

IBM SPSS (Version 29.0.1.0) was used to analyze the data. We used ANOVA, logistic regression, and general linear mixed models, depending on the form of the dependent variable. All models included a variable representing the schemes, product type, nutrient profile, and

demographics including rural residency, nutrition knowledge, education, race/ethnicity, age, sex, and whether the participant was paying attention to their intake of sodium, saturated fat, and added sugars (separately) to mitigate the effects of differential interest in these nutrients (See Appendix F for table of study variables). Covariate adjustments were included in the models to mitigate any potential covariate imbalances. Furthermore, interactions between the schemes and product type, nutrient profile, rural residency, and nutrition knowledge were included in the models for the scheme comparison task and the nutrient characterization questions in the single product evaluation part of the experiment. A control for being randomly assigned to a scheme that was viewed in the first part of the study was also included in the analysis of the data for the single product evaluation part of the study to mitigate any effects of prior exposure. We used a probability cutoff of less than .05 to indicate statistical significance in all instances except for multiple contrasts when we employed a Bonferroni adjustment to make rejecting the null hypothesis more difficult (see tables 2 through 7 for the Bonferroni p-value cutoffs). The adjustment makes the p-value cutoff more conservative to decrease the probability of committing a type 1 error, when conducting multiple statistical tests. The Bonferroni adjustment is a p-value cutoff calculated as the “acceptable p-value cutoff divided by the number of statistical tests being conducted.”

We employed p-values rather than confidence intervals because p-value cutoffs allow for a clear decision-making standard which is expedient in a regulatory environment. One reason we did not employ confidence intervals to determine statistical significance is that they have the potential to overlap even when p-values are less than.05. Furthermore, the false positive risk associated with the use of p-values was mitigated in this study using Bonferroni, one of the more conservative approaches for multiplicity adjustments.

For the main outcome variable, the probability, pCorrect, that the respondent provided correct responses to how low or high is this product in the following nutrients (1=correct, 0=not correct) was modeled, for the ith respondent, as:

$$\text{logit}(p\_\text{Correct}) = \beta_0 + \beta_1 * \text{Label Scheme} + \beta_2 * \text{Rural} + \beta_3 * \text{Age} + \beta_4 * \text{Gender} + \beta_5 * \text{Race Ethnicity} + \beta_6 * \text{Nutrition Literacy} + \beta_7 * \text{Higher Education} + \beta_8 * \text{NFL} + \beta_9 * \text{Attention to Sodium} + \beta_{10} * \text{Attention to Saturated Fat} + \beta_{11} * \text{Attention to Sugar} + \beta_{12} * \text{NFL} + \beta_{13} * (\text{Label Scheme} * \text{Nutrition Literacy}) \left[+ \beta_{14} * (\text{Label Scheme} * \text{Rural}) + \beta_{15} * (\text{Label Scheme} * \text{Higher Education Literacy}) + \beta_{13} * (\text{Label Scheme} * \text{Race Ethnicity}) + \varepsilon \right]_i$$

where $\text{logit}(p\_\text{Correct}) = \ln(p\_\text{Correct} / (1 - p\_\text{Correct}))$

A random intercept model was used to account for the (within respondent) repeated measure design (Part 1 of the study), with a diagonal covariance structure. The coding for the variables in the model is shown in Appendix F. To analyze the repeated measures data (Part 1 of the study), the data was restructured such that each record in the data set represents a single task. The participants completed three tasks in Part 1 of the study. Therefore, the total analytical sample size when comparing across the scheme types is 27,600. When comparing schemes within the Nutrition Info scheme category, the total sample size is 17,333.

All variables were treated categorically (i.e., dummy variable coding). The variables were numericized to allow the researcher to customize the dummy coding for ease of interpretability and to allow the researcher to customize the reference level. This same coding was carried forward to all analyses.

C. Results

Results are organized such that in the first section, C1, data for the schemes have been collapsed into three categories (1. GDA, 2. Nutrition Info, and 3. High In) to highlight similarities and differences among major scheme types. The second section, C2, contains results for all the Nutrition Info schemes and scheme conditions to allow for easy comparison among the five Nutrition Info schemes. Additionally, each section begins with the results for the Nutrient Profile Comparison Task, the first part of the study, and then displays results for the Single Product Evaluation part of the experiment.

C1. Results for Schemes Grouped into Three Categories (GDA, Nutrition Info, High In)

C1a. Nutrient Profile Comparison Task *(Task 1)* (see Table 2)

For both the “Identify the Healthiest” and “Identify the Least Healthy” tasks, participants were significantly *less* likely to correctly respond when viewing the High In schemes. Although very few participants clicked to see the Nutrition Facts label when responding to those questions, those viewing the High In schemes were significantly *more* likely to click than those viewing the Nutrition Info schemes. Moreover, those viewing the High In schemes took longer to respond in this section of the experiment than those viewing the GDA and the Nutrition Info schemes. Viewing the Nutrition Info scheme resulted in significantly less time spent in this section than viewing both the GDA and the High In schemes.

There were small but significant interaction effects between scheme categories and selecting the healthiest nutrient profile for nutrition knowledge and rural residency. Compared to those with higher nutrition knowledge, those with lower nutrition knowledge were slightly less likely to correctly answer the question if assigned to the GDA or the Nutrition Info schemes but appreciably less likely to correctly answer if assigned to the High In schemes (See Exhibit 2). Participants with rural residency were slightly more likely to correctly select the healthiest nutrient profile if assigned to the GDA scheme and to the Nutrition Info schemes but slightly less likely than nonrural residents to correctly answer if assigned to the High In schemes (See Exhibit 3).

C1b. Single Product Evaluation Task *(Task 2)*

Participants viewing the GDA scheme were, on average, significantly less likely to correctly characterize the level of saturated fat, sodium, and added sugars than those viewing the Nutrition Info and the High In schemes (see Table 3). There was a significant nutrient profile interaction with the schemes; those who viewed the least healthy, versus the middle or healthiest, nutrient profile, were far less likely to correctly characterize the level of saturated fat when viewing the GDA scheme, more likely when viewing the Nutrition Info schemes, and less likely when viewing the High In schemes (see Exhibit 4). Additionally, participants viewing the middle nutrient profile were significantly less likely to correctly characterize the level of sodium for all schemes, with Nutrition Info schemes slightly lower than the GDA schemes and both of those much lower than the High In schemes (see Exhibit 5).

For all attitude and perception questions, the High In schemes resulted in significantly lower ratings than both the GDA and the Nutrition Info schemes, except for the measure “Simple to Complex,” for which ratings did not differ significantly between the scheme categories (see Tables 4 and 4a).

C2. Results for Nutrition Info Schemes

C2a. Nutrient Profile Comparison Task *(Task 1)* (see Table 5)

Almost all participants were able to identify the healthiest nutrient profile for all versions of the Nutrition Info Scheme, with the Color with no %DV scheme scoring 3 percentage points higher than the BW with %DV. There were no significant differences between the five Nutrition Info schemes on correctly identifying least healthy nutrient profile, and likelihood of clicking to

see the Nutrition Facts label The total amount of time spent responding to the questions for all Nutrition Info Schemes ranged from 27 to 30 seconds.

C2b. Single Product Evaluation Task *(Task 2)*

On correctly characterizing the level of saturated fat and sodium, there were no significant differences between the six Nutrition Info scheme conditions (five total schemes plus one scheme tested in the lower right corner of the label) (see Table 6). For correctly characterizing the level of added sugars, a large majority of participants provided the correct answer for all the Nutrition Info schemes. The percentage correct for the BW with %DV scheme, while high (78% of participants answering correctly), was significantly lower than the other schemes. There were very few significant differences between the five Nutrition Info scheme conditions on the attitude and perception questions (see Table 7 and 7a). When there were differences, the "Black and White, No %DV in the Lower Right of the Package" scored significantly lower than Black and White with %DV and Color with %DV on many of the measures (see Table 7 and 7a).

D. Conclusions

Overall, both the GDA and High In schemes did not perform as well as the Nutrition Info schemes on tasks associated with an understanding of the nutrient content displayed on the schemes. Moreover, the High In schemes performed worse than both the GDA and Nutrition Info schemes on all of the attitude and perception measures except for the measure "simple to complex" where there were no differences between the three scheme categories. Results for the Nutrition Info schemes show that they did not produce incorrect answers or low scores at rates similar to those of the GDA and High In schemes.

The interactions between the scheme categories and both nutrition knowledge and rural residency are minor, with those of lower nutrition knowledge correctly selecting the healthiest nutrient profile slightly less frequently than those with higher nutrition knowledge and negligible interaction effects between the schemes and rural residency for the same variable. We found some interactions between the scheme categories and nutrient profile; these can be understood by looking at the level of the specific nutrient in question. The level of added sugars was "Med" on the GDA and Nutrition Info schemes and "High" on the High in schemes. There were no significant interactions by the three scheme types for added sugars. The level of saturated fat

on the healthiest and the middle nutrient profiles was “Low” and for the least healthy, the level was “High.” This proved more difficult for participants to discern when viewing the GDA and the High In schemes compared to when viewing the Nutrition Info schemes. The significant interaction between schemes and nutrient profile for the sodium question can be understood similarly. The middle nutrient profile had a “Med” %DV for sodium. All schemes were much less likely to produce correct answers for the middle nutrient profile compared to both the healthiest and least healthy, but those viewing the GDA and the Nutrition Info schemes were appreciably less likely to correctly answer the question when viewing the middle profile than those viewing the High In schemes. Some consumer education about the middle nutrient profile might be helpful if a front-of-package nutrition labeling scheme is adopted.

This study had both strengths and limitations. The experimental design allowed for estimation of cause-effect relationships. The large sample size enabled researchers to test nuances, including halving the sample based on nutrition knowledge and the addition of appropriate statistical controls for the analytical models, with a level of statistical power that would not have been possible with a small sample. Moreover, because we used a large consumer panel to select participants, we were able to balance the sample by U.S. demographics.

Two limitations of the study were that it tested only eight scheme versions and only one of the eight schemes in the lower right corner of the mock products – all other tested schemes were in the upper right corner. However, while testing only eight schemes can be seen as a limitation, this study did include the major types of FOP schemes (i.e., scheme categories). Another potential limitation is that the study did not test all design elements on all the scheme types. For example, the use of color, magnifying glass, interpretive language, and shape were not manipulated such that results could answer questions specific to these elements. Additionally, there were no schemes that matched the High In schemes on nutrient profile. Specifically, there were no GDA or Nutrition Info Schemes that displayed all high-in nutrients to limit. However, in an analysis with the least healthful nutrient profiles for the GDA and Nutrition Info black and white with no DV and the healthiest profile for the High In scheme, results mirrored that of the full study; the Nutrition Info scheme performed best. It is important to note, however, that the purpose of this study was to compare the different types of schemes with each other and not to test components of the schemes. The literature on schemes displaying nutrient summaries, interpretive information, and warnings is clear; interpretive schemes do best for conferring an understanding of nutrient content.

Another potential study limitation is that participants were asked to respond to schemes for which they had no previous experience or information. However, although education and experience may prove helpful for consumer understanding of the scheme, there is no guarantee in the real world that consumers will have seen instructional materials about the scheme. It was important to assess the degree to which the schemes communicated to consumers without having prior knowledge of or experience with them. Additionally, not showing the schemes on food products for the first task, where participants were asked to identify the healthiest and least healthy nutrient profile, could be seen as a study limitation; however, cognitive interviews revealed that study participants would have no difficulty understanding what was being asked of them.

Table 2. General Linear Mixed Model Results of Nutrient Profile Comparison Task for GDA, Nutrition Info, and High In Schemes Categories: Task 1 (N=27,600)*

(#) Scheme Category	Correctly Identified Healthiest Nutrient Profile[a,b]	Clicked to See Nutriton Facts label for Healthiest Profile Question[a,b]	Correctly Identified Least Healthy Nutrient Profile[a,b]	Clicked to See Nutrition Facts label for Least Healthy Profile Question[a,b]	Time in Seconds Responding to Nutrient Profile Comparison Questions[c,d]
1. GDA	94%	10%	93%	6%	31
2. Nutrition Info	95%	8%[3]	92%	6%	28[1,3]
3. High In	70%[1,2]	12%[2]	88%[1,2]	9%[1,2]	34[1,2]

* The data file was restructured such that each of three participant tasks in Part 1 of the study counted as one record.
[a] Logit Link Function; Binomial Probability Distribution
[b] Estimated marginal means reported as percentages.
[c] Linear Mixed procedure used for this variable.
[d] Top and bottom 2% of results removed to mitigate outlier effects.
[1,2,3] Scheme category significantly different from scheme category number, using a Bonferroni adjusted Type 1 error value of .017.

Exhibit 2. Chart Showing Interaction Effect Between the Scheme Categories and Nutrition Knowledge for the "Select the 'healthiest' nutrition profile" Task.

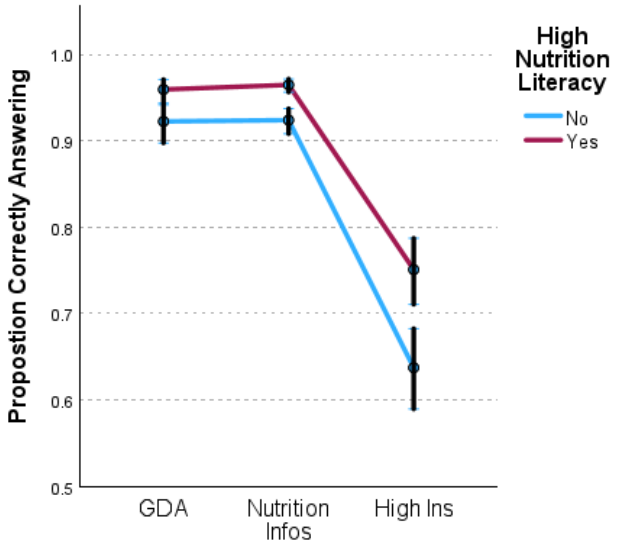


Exhibit 3. Chart Showing Interaction Effect Between the Scheme Categories and Rural Residency the "Select the 'healthiest' nutrition profile" task.

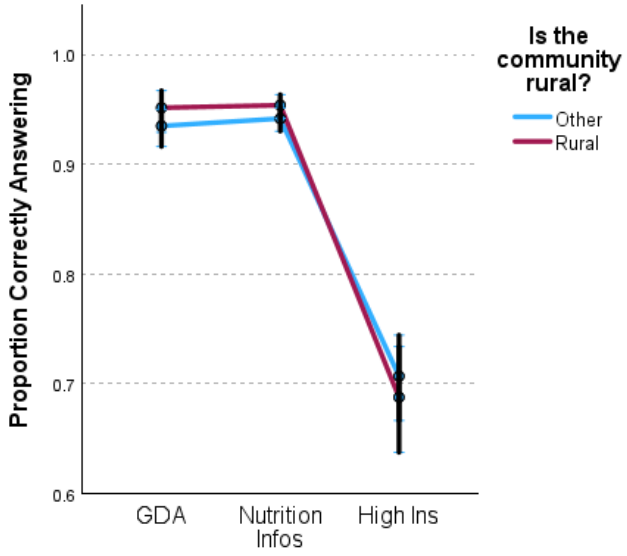


Table 3. General Linear Mixed Model[a] Results of Single Product Evaluation Task on Correctly Characterizing the Level of Nutrient in the Product For GDA, Nutrition Info, and High In Scheme Categories: Task 2 (N=9,200)

(#) Scheme Category	Correctly Answered about Level of Saturated Fat[b]	Correctly Answered about Level of Sodium[b]	Correctly Answered about Level of Added Sugars[b]
1. GDA	64%[2,3]	25.5%[2,3]	55%[2,3]
2. Nutrition Info	86%	59.8%[1,3]	84%[1,3]
3. High In	87%	70%	75%

[a] Logit Link Function; Binomial Probability Distribution
[b] Estimated marginal means reported as percentages.
[1,2,3] Scheme category significantly different from scheme category number, using a Bonferroni adjusted Type 1 error value of .017.

Exhibit 4. Chart Showing Interaction Between the Scheme Categories and Nutrient Profile for Correctly Characterizing the level of Saturated Fat.

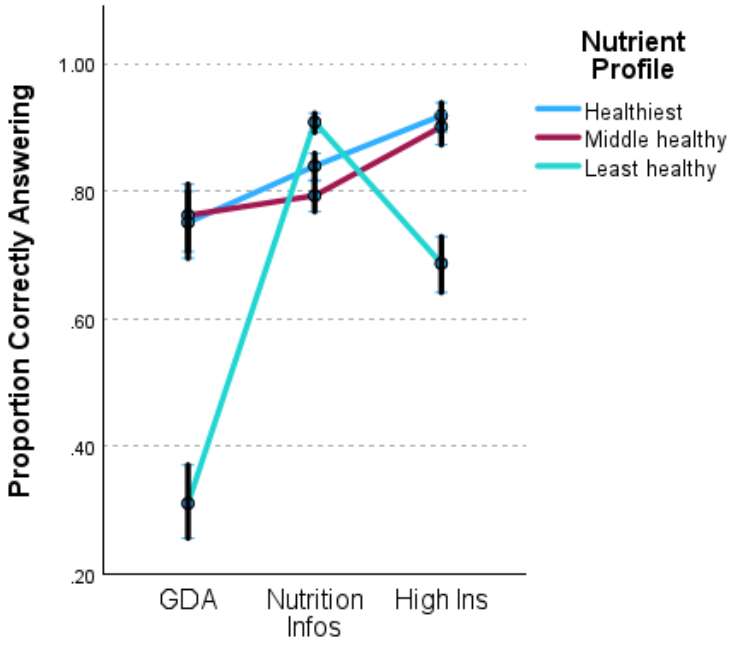


Table 4. Univariate ANOVA Results of Single Product Evaluation Task for Attitude and Perception Questions For GDA, Nutrition Info, and High In Scheme Categories: Task 2 (N=9,200)

(#) Scheme Category	Useful[a,b]	Like the Format[a,b]	Easy to Use[a,b]	Easy to Understand[a,b]	Easy to Use for Comparing Between Products[a,b]	Would Quickly Notice[a,b]
1. GDA	3.99	3.95	3.87	4.08	4.1	3.87
2. Nutrition Info	3.96	3.87	3.90	4.08	4.1	3.93
3. High In	3.69[1,2]	3.47[1,2]	3.57[1,2]	3.81[1,2]	3.71[1,2]	3.73[1,2]

[a] Estimated marginal means reported.
[b] Response options range from 1 "Strongly disagree" to 5 "Strongly Agree."
[1,2] Scheme category significantly different from scheme category number, using a Bonferroni adjusted Type 1 error value of .017.

Table 4a. Univariate ANOVA Results of Single Product Evaluation Task for Attitude and Perception Questions for GDA, Nutrition Info, and High In Scheme Categories: Task 2 (N=9,200)

(#) Scheme Category	Trustworthiness Rating[a,b]	Can Easily Find Nutrition Information on this Label[a,c]	Can Easily Use Information to Determine if Food Can Be Part of a Healthful Dietary Pattern[a,c]	Reaction to Communication about Healthfulness: Simple to Complex[a,d]	Can Sometimes Eat this Product Even if Limiting Sat Fat, Sodium, or Added Sugar[a,e]	Confident Can Use FOP to Make Decisions About How Food Fits Into a Healthful Diet[a,f]
1. GDA	4.61	4.97	4.70	3.38	3.86	3.62
2. Nutrition Info	4.50	4.96	4.73	3.28	3.81	3.61
3. High In	4.27[1,2]	4.51[1,2]	4.33[1,2]	3.31	3.57[1,2]	3.32[1,2]

[a] Estimated marginal means reported.
[b] Response options range from 1 to 6 where 1 is "Not Trustworthy" and 6 is "Trustworthy."
[c] Response options range from 1 "Strongly disagree" to 6 "Strongly Agree."
[d] Semantic differential from 1 "Simple" to 6 "Complex."
[e] Response options range from 1 "Strongly disagree" to 5 "Strongly Agree."
[f] Response options range from 1 "No Confidence" to 5 "Extremely Confident."
[1,2] Scheme category significantly different from scheme category number, using a Bonferroni adjusted Type 1 error value of .017.

Table 5. General Linear Mixed Model Results of Nutrient Profile Comparison Task for Nutrition Info Schemes: Task 1 (N=17,333)*

(#) Nutrition Info Scheme	Correctly Identified Healthiest Nutrient Profile[a,b,]	Clicked to see Nutrition Facts label for Healthiest Profile Question[a,b,c]	Correctly Identified Least Healthy Nutrient Profile[a,b,c]	Clicked to see Nutrition Facts label for Least Healthy Profile Question[a,b,c]	Time in Seconds Responding to Nutrient Profile Comparison Questions[d,e]
1. Black & White (BW), No %DV	94%	8%	90%	6%	28
2. Magnifying Glass	93%	9%	90%	5%	30
3. BW with %DV	92%[4]	7%	89%	3%	29
4. Color No %DV	95%	8%	90%	4%	27[1,2,3]
5. Color with %DV	95%	6%	90%	4%	27[2,3]

* The data file was structured such that each of three participant tasks in Part 1 of the study counted as one record.
[a] Logit Link Function; Binomial Probability Distribution
[b] Estimated marginal means reported as percentages.
[c] No significant differences between schemes, using a Bonferroni adjusted Type 1 error value of 005.
[d] Linear Mixed procedure used for this variable.
[e] Top and bottom 2% of results removed to mitigate outlier effects.
[1,2,3,4] Scheme category significantly different from scheme category number, using a Bonferroni adjusted Type 1 error value of .005.

Table 6. General Linear Mixed Model[a] Results of Single Product Evaluation Task on Correctly Characterizing the Level of Nutrient in the Product for the Nutrition Info Schemes: Task 2 (N=5,922)

(#) Nutrition Info Scheme	Correctly Answered about Level of Saturated Fat[b,c]	Correctly Answered about Level of Sodium[b,c]	Correctly Answered about Level of Added Sugars[b]
1. BW, No %DV	85%	55%	86%
1a. BW, No %DV in Lower Right of package	86%	62%	86%
2. Magnifying Glass	88%	63%	87%
3. BW with %DV	81%	56%	78%[1,1a,2,4,5]
4. Color No %DV	86%	63%	88%
5. Color with %DV	84%	55%	85%

[a] Logit Link Function; Binomial Probability Distribution
[b] Estimated marginal means reported as percentages.
[c] No significant differences between schemes, using a Bonferroni adjusted Type 1 error value of .005.
[1,1a,2,4,5] Scheme category significantly different from scheme category number, using a modified Bonferroni adjusted Type 1 error value of .005

Table 7. Univariate ANOVA Results of Single Product Evaluation Task for Attitude and Perception Questions for Nutrition Info Schemes: Task 2 (N=5,922)

(#) Scheme Category	Useful[a,b]	Like the Format[a,b]	Easy to Use[a,b]	Easy to Understand[a,b]	Easy to Use for Comparing Between Products[a,b]	Would Quickly Notice[a,b]
1. BW, No %DV	4.01	3.82[5]	3.93	4.06	4.10	4.03
1a. BW, No % DV in Lower Right of package	3.94[3,5]	3.80[5]	3.86[3,5]	4.02[5]	4.05	3.82[3,5]
2. Magnifying Glass	3.98	3.86	3.92	4.05	4.05	3.92
3. BW with %DV	4.14	3.97	4.09	4.17	4.22	4.05
4. Color No %DV	4.01	3.88	3.93	4.10	4.11	3.98
5. Color with %DV	4.12	4.03	4.07	4.20	4.25[1a, 2]	4.03

[a] Estimated marginal means reported.
[b] Response options range from 1 "Strongly disagree" to 5 "Strongly Agree."
[1a,2,3,5] Scheme category significantly different from scheme category number, using a Bonferroni adjusted Type 1 error value of p<.005.

Table 7a. Univariate ANOVA Results of Single Product Evaluation Task for Attitude and Perception Questions for Nutrition Info Schemes: Task 2 (N=5,922)

(#)Scheme Category	Trustworthiness Rating[a,b]	Can Easily Find Nutrition Information on this Label[a,c]	Easily Use Information to Determine if Food Can Be Part of a Healthful Dietary Pattern[a,c]	Reaction to Communication about Healthfulness: Simple to Complex[a,d]	Can Sometimes Eat This Product Even if Limiting Sat Fat, Sodium, or Added Sugar[a,e]	Confidence Can Use FOP to Make Decisions About How Food Fits Into a Healthful Diet[a,f]
1. BW, No %DV	4.60	4.84	4.64	3.46	3.86	3.62[5]
1a. BW, No %DV in Lower Right of package	4.53	4.78[3,5]	4.61[3,5]	3.37	3.93[2]	3.56[5]
2. Magnifying Glass	4.55	4.89	4.68	3.33	3.77	3.65
3. BW with %DV	4.69	5.06	4.83	3.44	3.91	3.74
4. Color No %DV	4.57	4.93	4.76	3.30	3.80	3.59[5]
5. Color with %DV	4.67	5.01	4.84	3.49	3.88	3.81

[a] Estimated marginal means reported.
[b] Response options range from 1 to 6 where 1 is "Not Trustworthy" and 6 is "Trustworthy."
[c] Response options range from 1 "Strongly disagree" to 6 "Strongly Agree."
[d] Semantic differential from 1 "Simple" to 6 "Complex."
[e] Response options range from 1 "Strongly disagree" to 5 "Strongly Agree."
[f] Response options range from 1 "No Confidence" to 5 "Extremely Confident."
[2,4,5] Scheme category significantly different from scheme category number, using a Bonferroni adjusted Type 1 error value of .005.

References

1. U.S. Department of Agriculture and Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025. 9th edition. December 2020. Available at http://www.dietaryguidelines.gov.*

2. The White House. "Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health." September 2022. Available at https://www.whitehouse.gov/wp-content/uploads/2022/09/White-House-National-Strategy-on-Hunger-Nutrition-and-Health-FINAL.pdf; accessed December 12, 2023.

3. U.S. Food and Drug Administration. "FDA's Nutrition Initiatives." October 2023. Available at https://www.fda.gov/food/food-labeling-nutrition/fdas-nutrition-initiatives; accessed December 12, 2023.

4. U.S. Food and Drug Administration. "Front of Package Labeling Literature Review. April 2023. Available at https://downloads.regulations.gov/FDA-2023-N-0155-0031/content.pdf; accessed November 29, 2023.

5. Institute of Medicine. "Front-of-Package Nutrition Rating Systems and Symbols: Phase I Report." 2010. Washington, DC: The National Academies Press. https://doi.org/10.17226/12957. Available at https://nap.nationalacademies.org/catalog/12957/front-of-package-nutrition-rating-systems-and-symbols-phase-I; accessed November 1, 2023.

6. Institute of Medicine. "Front-of-Package Nutrition Rating Systems and Symbols: Promoting Healthier Choices." 2012. Washington, DC: The National Academies Press. Available at https://nap.nationalacademies.org/catalog/13221/front-of-package-nutrition-rating-systems-and-symbols-promoting-healthier; accessed November 1, 2023.

7. U.S. Food and Drug Administration. FDA Documentation for the Generic Clearance of Focus Groups (0910-0497): Front-of-Pack Focus Groups. Available at https://www.reginfo.gov/public/do/PRAViewIC?ref_nbr=202008-0910-021&icID=253321; accessed March 2, 2024.

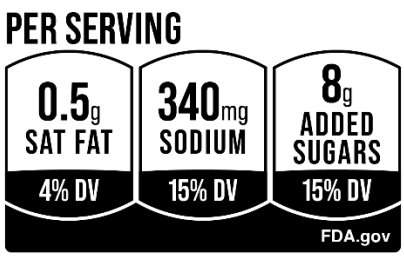
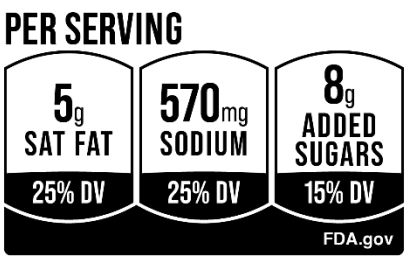
8. U.S. Food and Drug Administration. Front of Pack (FOP) Schemes to test. Available at https://www.reginfo.gov/public/do/PRAViewIC?ref_nbr=202008-0910-021&icID=253321; accessed March 2, 2024.

9. U.S. Food and Drug Administration. Quantitative Research on Front of Package Labeling on Packaged Foods: Part A. Available at https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202306-0910-004; accessed March 2, 2024.

10. American Association for Public Opinion Research Standard Definitions, AAPOR Cooperation Rate 1 [formula]. 2023. Available at https://aapor.org/wp-content/uploads/2023/05/Standards-Definitions-10th-edition.pdf; accessed on December 12, 2023.

Appendix A – Front-of-Package Nutrition Labeling Schemes by Nutrient Profile

GDA

Healthiest	Middle	Least Healthy
		

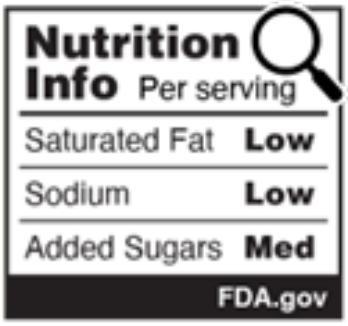
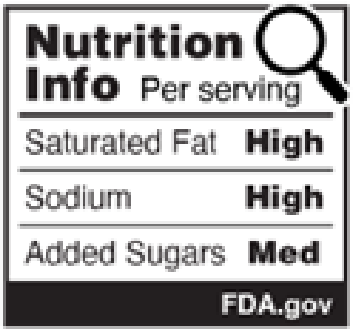
Nutrition Info Black and White No %DV

Healthiest	Middle	Least Healthy
		

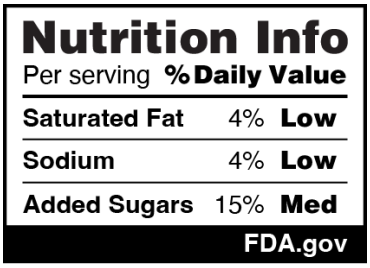
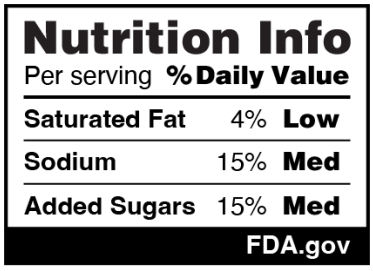
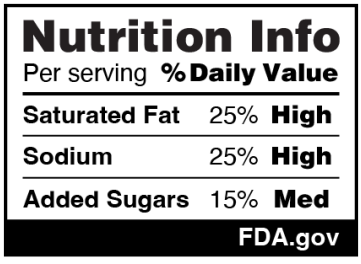
Nutrition Info Color No %DV

Healthiest	Middle	Least Healthy
		

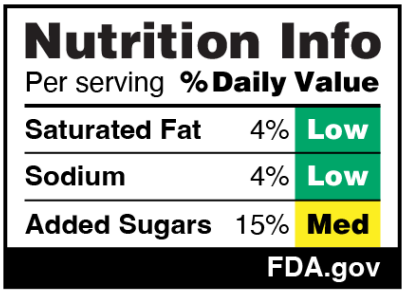
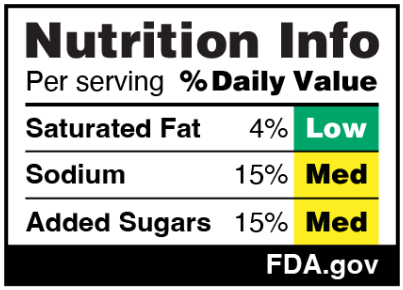
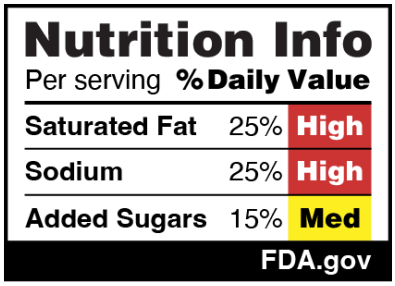
Nutrition Info Magnifying Glass

Healthiest	Middle	Least Healthy
		

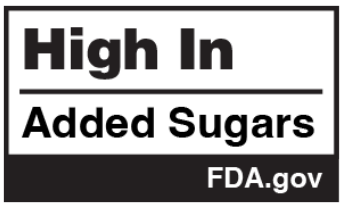
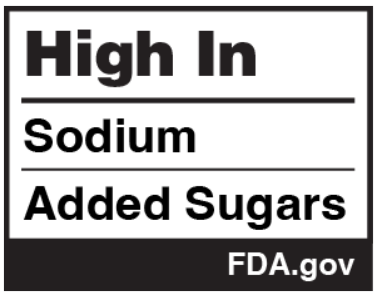
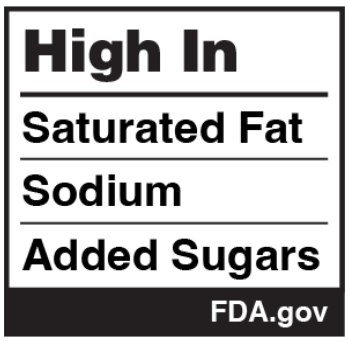
Nutrition Info Black and White with %DV

Healthiest	Middle	Least Healthy
		

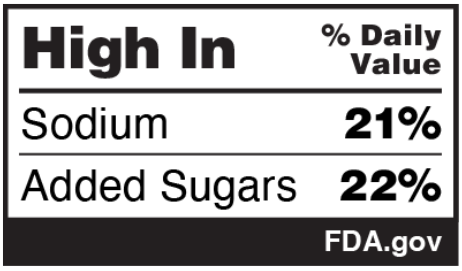
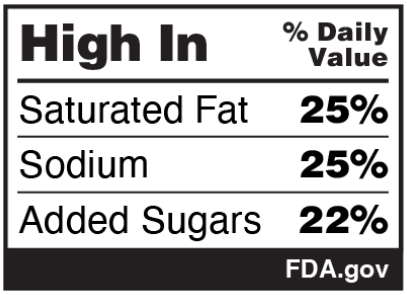
Nutrition Info Color with %DV

Healthiest	Middle	Least Healthy
		

High In

Healthiest	Middle	Least Healthy
		

High In with % DV

Healthiest	Middle	Least Healthy
		

Appendix B – Study Screener

Front-of-Package Nutrition Labeling Experiment Screener

//BEGIN SCREENER//

OMB No: 0910-0920 Expiration Date: 08/31/2026
Paperwork Reduction Act Statement:
Public reporting burden for this collection of information is estimated to average 3 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to:

Food and Drug Administration
CFSAN/PRA Comments/HFS-24
5001 Campus Dr.
College Park, MD 20740-3835.

S0. Hello! We are inviting a select group of people to participate in an exciting opportunity! To help determine if you fit into this study, please answer a few questions that should take no more than 3 minutes of your time. If you are selected to participate, the survey will take about 15 minutes to complete. If you qualify for this study, would you be willing to participate?
Yes
No [TERMINATE]

S2. What is your 5-digit zip code? _____ [5-DIGIT ZIP CODE OE, TERMINATE IF UNABLE TO CODE]
HID_STATE (recode to state)
HID_REGION (recode to region)
1 = NORTHEAST
2 = MIDWEST
3 = SOUTH
4 = WEST

S3. Thinking about your primary residence, which one of the following would you consider the community setting that you live in to be?
Urban
Suburban
Rural

S4. How old are you? _____ [ALLOW ENTRIES 1-99, MUST BE 18+ TO CONTINUE; TERMINATE IF <18]
HidAge
18-29
30-49
50-64

65 or older

S5. Are you? (select all that apply) [Single-select]
Female
Male
Transgender, non-binary, or another gender

S6. Are you Hispanic or Latino?
No, not Hispanic or Latino
Yes, Hispanic or Latino

S7. What is your race? (Please select one or more)
American Indian or Alaska Native
Asian
Black or African American
Native Hawaiian or other Pacific Islander
White
Other

Hid_Eth_Single.
Hispanic: Q6=2
Black/AA Q6=1 AND Q7=3
White Q6=1 AND Q7=5 ONLY (no other Q7 options selected)
Asian : Q6=1 AND Q7=2 AND Q7≠3
Native Hawaiian= Q6=1 AND Q7=4 AND Q7≠2, 3
All Other Races: Does not qualify for any of above punches

S9. What is the highest grade or level of school you have completed? Please select one answer.
Less than high school degree → **lower education**
High school degree or GED → **lower education**
Attended or graduated technical or vocational school → **lower education**
Some community college → **lower education**
1-3 years college/some college → **higher education**
College graduate/bachelor's degree → **higher education**
Attended or graduated with advanced degree → **higher education**

HID_Education.
Lower education
Higher education

S10. Do you have access to a computer, laptop, or a tablet that you can use to complete the study, for example, at home or at the public library?
Yes
No //not eligible // [TERMINATE]

NUTRITION KNOWLEDGE

S13. How well do the following statements describe you, where 1 means the statement does not describe you at all and 7 means the statement describes you perfectly. **//FIELD PART A AND B ON SAME SCREEN//**

S13a. I always follow a healthy and balanced diet.

S13b. I eat what I like and I do not worry about healthiness of food.
//To score S13A and S13B: For S13B, reverse numerical responses; (I.e., 1=7, 2=6, 3=5, 4=4, 5=3, 6=2, 7=1.); add scores for S13A and reversed S13B and divide by 2. results: 1 thru 4.9 = Low nutrition motivation (assign score of 0). 5 thru 7 = High nutrition motivation (assign score of 1).//
HidNutritionMotivation: To capture low vs high nutrition motivation from S13A-S13B.
HidLowNutritionMotivation
HidHighNutritionMoviation

S14. This is a two-part fill-in-the-blank question. On this screen, please select the option that best fits part A. [SINGLE SELECT PER BLANK]
//Program portion A and portion B of question 14 on separate screens//

For a healthy diet, we are advised to eat five _____**A**_____ of fruits and vegetables each _____**B**_____.

A

pieces	**[Assign a NUTRITION SCORE of 0]**
ounces	**[Assign a NUTRITION SCORE of 0]**
grams	**[Assign a NUTRITION SCORE of 0]**
servings	**[Assign a NUTRITION SCORE of 1]**

//New Screen//
This is a two-part fill-in-the-blank question. On this screen, please select the option that best fits part B. [SINGLE SELECT PER BLANK]

B

day	**[Assign a NUTRITION SCORE of 1]**
morning	**[Assign a NUTRITION SCORE of 0]**
meal	**[Assign a NUTRITION SCORE of 0]**
week	**[Assign a NUTRITION SCORE of 0]**

S15. The Nutrition Facts label is often found on the back of a food package. It is the table showing the amount of various nutrients in the food. If the Nutrition Facts label shows that one serving of the food contains 25 percent of the Daily Value (or DV) of Sodium, based on the information, would you consider a serving of this product to have a low, medium, or high amount of Sodium?

Low	**[Assign a NUTRITION SCORE of 0]**
Medium	**[Assign a NUTRITION SCORE of 0]**
High	**[Assign a NUTRITION SCORE of 1]**
Don’t know	**[Assign a NUTRITION SCORE of 0]**

SUM OF SCORES FROMS 13A/B+ S14A + S14B +S 15 = _____

If SUM = 0 to 2, assign participant to low nutrition knowledge/motivation.
If SUM = 3 or 4, assign participant to high nutrition knowledge/motivation.

S16. //ADD OPEN END QUESTION; FORCE 3-CHARACTER MIN IN ALL THREE BOXES//
What are your three favorite foods? (open-ended text box)
[OPEN TEXT BOX 1]
[OPEN TEXT BOX 2]
[OPEN TEXT BOX 3]
Please click “Finish” to submit your survey.

Appendix C – Questionnaire

Front-of-Package Nutrition Labeling Experiment Questionnaire

//QUESTIONNAIRE BEGINS//

Q0. **[HYPERLINK INFORMED CONSENT AND GIVE ABILITY TO SAVE/PRINT CONSENT FORM; PROGRAM SO THAT PARTICIPANTS CANNOT MOVE FORWARD WITHOUT FIRST OPENING CONSENT FORM]**
If you have read the Informed Consent Document and agree to participate, please click the Yes button. If not, click the No button. You must open the Informed Consent Document to move forward.
1. Yes, I agree to participate.
2. No, I do not agree to participate.

//DISPLAY THE FOLLOWING AND INSERT "NEXT" BUTTON//
Thank you for agreeing to participate. We are interested in your views about food labels. Please read each question carefully and then select the answer that best suits you. The information you provide will be kept secure to the extent provided by law. It will take about 15 minutes to answer all the questions. This collection of information is being conducted on behalf of the U.S. Food and Drug Administration.

Please click the "NEXT" button to begin the study.

//NEW SCREEN//

OMB No: 0910-0920
Expiration date: 08-31-2026
Paperwork Reduction Act Statement:
Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to:

Food and Drug Administration
CFSAN/PRA Comments/HFS-24
5001 Campus Dr.
College Park, MD 20740-3835.

Please click the "NEXT" button.

//NEW SCREEN//
//PART 1//
//NFL Use//
//INSERT Nutrition Facts Image. Keep image viewable for the four NFL questions that follow//

Nutrition Facts

9 servings per container
Serving size **1 cup (40g)**

Amount per serving
Calories **160**

	% Daily Value*
Total Fat 2g	**3%**
Saturated Fat 0.5g	**4%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 340mg	**15%**
Total Carbohydrate 32g	**12%**
Dietary Fiber 1g	**4%**
Total Sugars 15g	
Includes 8g Added Sugars	**15%**
Protein 3g	

Vit. D 2mcg 10% • Calcium 130mg 10%
Iron 8mg 45% • Potas. 280mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

This is an example of a Nutrition Facts label. We are going to ask you a few questions about the Nutrition Facts label.

Q3. When buying a packaged food product for the first time, how often do you use the Nutrition Facts label?

// SOFT PROMPT: Please provide a response. /

Value	Value Label
1	Never
2	Rarely
3	Sometimes
4	Most of the time
5	Always
-98	Not applicable, never seen the label
8	Don’t know
-99	Refused

Q4. When you buy packaged foods for the first time, how often do you use the Nutrition Facts label to compare how healthy or nutritious different foods are?

// SOFT PROMPT: Please provide a response. //

Value	Value Label
1	Never
2	Rarely
3	Sometimes
4	Most of the time
5	Always
8	Don’t know

-99	Refused

Q5. How often, if at all, do you use the Nutrition Facts label to see how high or low the food is in things like saturated fat, sodium, or added sugars? //Pulled from the 2011 HDS//

Value	Value Label
1	Never
2	Rarely
3	Sometimes
4	Most of the time
5	Always
8	Don't know
-99	Refused

Q6. How confident are you that you understand the Nutrition Facts label?
// SOFT PROMPT: Please provide a response. //

Value	Value Label
1	Not at all confident
2	A little confident
3	Somewhat confident
4	Very confident
5	Extremely confident
-99	Refused

Q7. On average, how often do you eat the following food products? **[RANDOMIZE ROWS]**
COLUMNS
Daily……5
A few times a week……..4
Once a week…….3
Once or twice a month…….2
Less than once a month……....1
Never ……..….0
Don't know…….....8
ROWS
Breakfast cereal
Frozen meals or entrees
Canned soup
99. Refused: Punch if no answer

//NEW SCREEN//

//"EDUCATING" ALL PARTICIPANTS//

Q8. The Food and Drug Administration (FDA) is exploring the idea of developing nutrition labels for food companies to put on the front of food packages to help consumers more quickly and easily identify foods that are part of a healthy eating pattern. These labels are called Front of Package nutrition labels.

In this survey, you will be asked to look at different kinds of Front of Package nutrition labels and answer questions about them. The image below shows an example of what we mean by Front of Package nutrition labels.

//Insert Breakfast Cereal with magnified scheme Image//

//INSERT "NEXT" BUTTON//

//Comparison Task – participants will see three of the same type of scheme at a time; each set of schemes will have a healthy, middle, and least healthy nutrient profile. Nutrient profiles will be presented randomly. There are a total of eight scheme sets, but participants will view only three of the eight scheme sets randomly. Participants will be asked to identify the healthiest and least healthy scheme in each set of three.//
[How quickly do participants respond to the question?]
[Do they click FOP scheme to view the NFL to answer the question?]

// Make image the hyperlink instead where when respondent clicks scheme images then the NFL images are shown. Add RI: Click image for more detail. Do not include the descriptor above the NFL.//

//Record if respondent clicks or does not click on each of the high, medium, and low scheme images to display the NFL for each set of scheme comparisons. Code 0 for no click and 1 for clicked for each scheme across each set of comparisons.
Also, code 0 for incorrect response and 1 for correct response for each screen. Also capture which scheme they choose as healthiest, middle healthy, and least.

//Assign to 3 schemes based on randomization//

Assigned_Schemes
GDA
Nutrition Info, BW, no DV
Nutrition Info, Color, no DV
Nutrition Info, BW, with DV
Nutrition Info, Color, with DV
Nutrition Info Magnifying Glass
High In, no DV
High In, with DV

//HidSchemeOrder: Show questions Q8A to Q8B on a loop with order assigned based on Assigned_Schemes Least fill assign HidSchemeOrder//
//Punch the scheme number of the three assigned schemes 1–8 for each of the below.//

HidSchemeOrder:

First scheme shown
Second scheme shown
Third scheme shown

//Nutrient order randomization. Least fill respondents across all possible combinations for nutrient profile for each FOP scheme assigned and show image in loop.//

Nutrient order randomization:
Most healthy, middle healthy, least healthy
Middle healthy, least healthy, most healthy
Least healthy, most healthy, middle healthy
Most healthy, least healthy, middle healthy
Middle healthy, most healthy, least healthy
Least healthy, middle healthy, most healthy

//START LOOP FOR Q8A-Q8B FOR ASSIGNED SCHEME BASED ON HIDSCHEME ORDER. EACH RESPONDENT WILL LOOP THREE TIMES (ONCE FOR EACH SCHEME)//
//Start timer and record time it takes to answer "healthiest" in milliseconds.//

Please look at the three Front of Package nutrition labels below and follow the instructions as quickly as you can.

Q8A. Which one of the three Front of Package nutrition labels shows the **healthiest** overall nutrient profile? **IF NEEDED, click image for more nutrition detail.**
//INSERT GRAPHICS OF ASSIGNED SCHEME – 3 NUTRITION LEVELS IN ASSIGNED ORDER FOR THAT SCHEME (HidOrderGDA, HidOrder Nutrition, HidOrderHighIn) HORIZONTALLY//

//Stop timer after responding to "healthiest."//

// The NFL displayed will match the nutrient profile of the scheme above it. //

//Start time and record time it takes to answer "least healthy" in milliseconds.//

Q8B. Which one of the three Front of Package nutrition labels shows the **least healthy** overall nutrient profile? **IF NEEDED, click image for more nutrition detail.**

//Stop timer after each selection of the three healthiest/least healthiest screens have been made.//

//Stop timer when both selections have been made.//

// SOFT PROMPT: Please provide a response. //
//Repeat until three scheme sets have been viewed.//

//[NEW SCREEN//

// Field question Q8C only to those who clicked on at least one of the images to display Nutrition Facts Labels during scheme comparison task.)//
// Randomize response option order for 1-4, while always displaying the "other (OE) option last.//

Q8C. In the previous section, you clicked on at least one image for more nutrition detail. Can you tell us why you clicked on the image(s)? *Please select all that apply.*
I *needed* more nutrition information to answer the question(s)……..1
I *wanted* to see more nutrition information, not just what was provided on the Front of Package nutrition label……2

I accidentally clicked the image……3
I thought clicking on the image would make it bigger……..4
Other (specify)……5 _____

//[NEW SCREEN//

//SECTION B – SINGLE-PRODUCT EVAUATION//
[PERCEPTIONS OF PRODUCT HEALTHFULNESS]

//PLEASE LEAST FILL CELLS BASED ON SCREENER QUESTIONS//
//SHOW IMAGE FOR ASSIGNED HIDSINGLEPRODUCT FOR Q9-Q11D//

Q9. Please take a moment to look at this food product. How much do you disagree or agree with the following statements?
// Randomize rows below.//
// SOFT PROMPT: Please provide a response for each row. //

Variable Name	Variable Text	Variable Label
	R1. I can easily find nutrition information on this label.	
	R2. I can easily use information on this label to determine if this food can be part of a healthful dietary pattern.	

Value	Value Label
1	Strongly Disagree
2	Disagree
3	Slightly disagree
4	Slightly agree
5	Agree
6	Strongly agree
-99	Refused

//NEW SCREEN//

Q9A. In your opinion, how healthy is this food product?

// SOFT PROMPT: Please provide a response for each row. //

Value	Value Label
1	Not healthy
2	Slightly unhealthy
3	Slightly healthy
4	Moderately healthy
5	Healthy
6	Very healthy
8	Don’t know
-99	Refused

//NEW SCREEN//

//HEALTHFULNESS BELIEVABILITY; Beltramini Believability Scale//

Q10. What is your reaction to how the **food package** is communicating the healthfulness of the food?
//Randomize ROWS R1-R5, while always presenting R6 "simple-complex" last on screen//
// **INSERT same image //**
//Present grid box response option.//
// SOFT PROMPT: Please provide a response for each row. //

Variable Name	Variable Text	Variable Label
	R1 Believable	Believable
	R2 Trustworthy	Trustworthy
	R3 Convincing	Convincing
	R4 Credible	Credible
	R5 Reasonable	Reasonable
	R6 Simple	Complex

Value	Value Label –
1	Not Believable
2	
3	
4	
5	
6	Believable
-98	Don't Know
-99	Refused

Value	Value Label –
1	Not Trustworthy
2	
3	
4	
5	
6	Trustworthy
-98	Don't Know
-99	Refused

Value	Value Label –
1	Not Convincing
2	
3	
4	
5	
6	Convincing
-98	Don’t Know
-99	Refused

Value	Value Label –
1	Not Credible
2	
3	
4	
5	
6	Credible
-98	Don’t Know
-99	Refused

Value	Value Label –
1	Not Reasonable
2	
3	
4	
5	
6	Reasonable
-98	Don’t Know
-99	Refused

Value	Value Label –
1	Simple
2	
3	
4	
5	
6	Complex
-98	Don’t Know
-99	Refused

//NEW SCREEN//

Q11. The Dietary Guidelines for Americans recommends limiting the consumption of foods and beverages that are higher in saturated fat, sodium, or added sugar.

// PLEASE SHOW PRODUCT BASED ON HidSingleProduct Assignment from the EXCEL FILE SHARED WITH 84 CELLS//

Please tell us how much you disagree or agree with the following statements. **[SHOW IN GRID FORMAT]**
[5-point Likert scale: 1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly agree, 8. Don't know]
R1. A person can eat this product regularly even if they are limiting their consumption of saturated fat, sodium, or added sugars
R2. A person can sometimes eat this product even if they are limiting their consumption of saturated fat, sodium, or added sugars

//Scheme Self-Efficacy//
99. Refused: Punch if no answer

//NEW SCREEN//

//Participants in the no scheme control condition (i.e., products without labels on them) do not get these questions//
//IF ASSIGNMENT IS NO SCHEME CONTROL (Control Cells Products 1, 2, 3 from Excel sheet), THEN SKIP Q11A-Q11D. ALL OTHERS, ASK Q11A-Q11D//

The next few questions are about the Front of Package nutrition label that is on the food package. Please use the Front of Pack nutrition label for the next set of questions.

//INSERT MAGNIFED IMAGE HERE BASED ON HIDSINGLE PRODUCT ASSIGNMENT//

Q11A. How confident are you that you could use this Front of Package nutrition label to help you make decisions about how well the food fits into a healthful diet?

Value	Value Label
1	No confidence
2	
3	
4	
5	Extremely confident
8	Don't Know
-99	Refused

//Attitude toward the scheme//

Q11B. For each of the following statements, please indicate how much you disagree or agree.
//Program so that items are randomized in presentation//
1. This Front of Package nutrition label is useful in helping me decide whether to consume the product.
2. I like the format or layout of this Front of Package nutrition label.
3. It would be easy to use this Front of Package nutrition label to select healthful foods.
4. It is easy to understand the information in this Front of Package nutrition label.
5. It would be easy to use this Front of Package nutrition label to compare between products.

6. I would quickly notice this Front of Package nutrition label.

Value	Value Label
1	Strongly disagree
2	Somewhat disagree
3	Neither agree nor disagree
4	Somewhat agree
5	Strongly agree
8	Don't know
-99	Refused

Q11C. How low or high is this product in the following nutrients? Please use the scale below.**//RANDOMIZE ITEMS. INSERT RESPONSE OPTION SCALE 1 THROUGH 6 ANCHORED BY 1=LOW AND 6=HIGH; PROVIDE A SELECTION BOX FOR INDICATING " DON'T KNOW." FOR EACH//**
Saturated Fat
Sodium
Added Sugars

99. Refused: Punch if no answer

//NEW SCREEN//

Q11D. In your own words, please tell us what comes to mind when you look at this **Front of Package nutrition label**.
// **INSERT IMAGE//**

//ALLOW 250 CHARACTERS//

//NEW SCREEN//

//HEALTHY FOOD CONSUMPTION SELF-EFFICACY//
//NO SCHEME CONTROL WILL GET THE REST OF THE QUESTIONS (ASK ALL RESPONDENTS)//

Q12A. The Nutrition Facts label on the right shows that one serving of the food contains 15 percent of the Daily Value (DV) of Total Carbohydrate. Based on the information, would you consider the percent Daily Value for Total Carbohydrate "High," "Low," or somewhere in between?

//Randomize response options//
//Insert NFL image file (below) and display on right side of screen//
The % Daily Value for Total Carbohydrate is High
The % Daily Value for Total Carbohydrate is Low
The % Daily Value for Total Carbohydrate is somewhere in between High and Low
Don't know

Nutrition Facts

2 servings per container
Serving size **1 cup (255g)**

Amount per serving
Calories **250**

	% Daily Value*
Total Fat 5g	**7%**
Saturated Fat 2g	**10%**
Trans Fat 0g	
Cholesterol 15mg	**5%**
Sodium 460mg	**20%**
Total Carbohydrate 41g	**15%**
Dietary Fiber 6g	**24%**
Total Sugars 7g	
Includes 5g Added Sugars	**10%**
Protein 9g	

Vit. D 2mcg 10% • Calcium 260mg 20%
Iron 2mg 10% • Potas. 240mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Q12. Now we have some questions about your food habits. For each of the following statements, please indicate how much you disagree or agree.
//Randomize items//
//SOFT PROMPT: Please provide a response for each row.//

Variable Name	Variable Text	Variable Label
	R1. If I eat a healthy diet, I can reduce my chance of getting heart disease.	Nutrition and heart disease
	R2. I am confident that I know how to choose healthy foods.	Choosing healthy foods
	R3. Eating a healthy diet is important for my long-term health.	Nutrition and long-term health

Value	Value Label
1	Strongly disagree
2	Somewhat disagree
3	Neither agree nor disagree
4	Somewhat agree
5	Strongly agree
8	Don’t know
-99	Refused

//PERCEPTIONS OF FOOD HEALTHFULNESS – Control variable//

Q13. In general, how nutritious are these foods?
//Use grid box response option//
//Randomize variables//

Variable Name	Variable Text	Variable Label
	R1. Fresh fruit and vegetables	Fresh fruit and vegetables
	R2. Whole grain breakfast cereal	Whole grain breakfast cereal
	R3. Whole milk, unflavored	Whole milk, unflavored
	R4. Regular (not diet) carbonated soft drink (soda, pop)	Soda
	R5. Vegetable-based frozen meal	Vegetable-based frozen meal
	R6. Canned bean soup	Canned bean soup

Value	Value Label
1	Not at all nutritious
2	
3	
4	
5	
6	Very nutritious
8	Don't know
-99	Refused

//SHOPPING HABITS//

Now we have a few questions about your food shopping habits.
Q14. How much of your household's food shopping do you do?

Value	Value Label
5	All of the food shopping
4	Most of it
3	About half of it
2	Only a little of it
1	None of it
-99	Refused

//INTEREST IN LABEL READING//

Q15. How interested are you in reading nutrition and health-related information at the grocery store?

Value	Value Label
1	Not interested
2	
3	
4	
5	
6	
7	Very interested

-99	Refused

//FOOD LABEL SELF-EFFICACY//

//RANDOMIZE ITEMS. INSERT RESPONSE OPTION SCALE 1 THROUGH 6 ANCHORED BY 1=STRONGLY DISAGREE AND 6=STRONGLY AGREE. PROVIDE SELECTION BOX INDICATING 'DON'T KNOW' FOR EACH ITEM.//

Q16. How much do you disagree or agree with the following statements?

R1. I know how to use food labels to choose a nutritious diet.
R2. The nutrition information on food labels is useful to me.

//SELF-RATED HEALTH//

Q17. Compared to other people your age, would you say your health is…?
//SOFT PROMPT: Please provide a response to the question.//

Value	Value Label
5	Excellent
4	Very good
3	Good
2	Fair
1	Poor
-99	Refused

Q18. Are you paying attention to your intake of salt or sodium?

Value	Value Label
0	No
1	Yes
8	Don't know
-99	Refused

Q19. Are you paying attention to your intake of saturated fat?

Value	Value Label
0	No
1	Yes
8	Don't know
-99	Refused

Q20. Are you paying attention to your intake of added sugars?

Value	Value Label
0	No
1	Yes
8	Don't know
-99	Refused

Q21. Have you ever been told by a doctor or other healthcare professional that you have any of the following health conditions? High blood pressure, diabetes, high cholesterol, heart disease, obesity, overweight, or cancer?

Yes……..1
No ……..0
Don't Know/Not Sure..8
Refused…….-99

Q22. How tall are you without shoes? Please enter a number in both "feet" and "inches." If you are not sure, make your best guess.

___ ft___ inches

Ft Range: 1-10 for ft, add flag if <3 or >6
Inches Range: 0-11
99. Refused: Punch if no answer

Q23r1. How much do you weigh without clothes or shoes? Please enter the number of pounds (round up or down to the closest whole number). If you are not sure, make your best guess.

Enter weight in pounds _____ lbs.
Range: 1-1,000
___Don't know 8
___[Refused] -99

//SELF-RATED LITERACY//

Q24. How do you rate your reading ability?

Value	Value Label
5	Excellent
4	Very good
3	Good
2	Fair
1	Poor
-99	Refused

//DEMOGRAPHICS; MOST ARE CAPTURED ON THE SCREENER AND WILL BE INCLUDED IN THE FINAL DATA SET//

Q25r3OE. What language(s) do you speak at home? *(Select all that apply.)*

Value	Value Label
1	English
2	Spanish
3	Other (specify)
-99	Refused [EXCLUSIVE]

//SHOW IN SAME SCREEN Q26 and Q27_//

Q26. How many total people, including yourself, currently live in your household?
// Lower Limit: 1//

// Upper Limit: 14//

Value	Value Label
-99	Refused

[SKIP Q27 AND AUTOPUNCH AS 0 IF Q26=1]
[IF Q27= MORE THAN OR EQUAL TO Q26 SHOW ERROR MESSAGE]
Q27. How many of the people in your household are children 17 years and younger?
// Lower Limit: 0//
// Upper Limit: 14//

Value	Value Label
-99	Refused

//Ask only if children in the household//
//IF Q27=1+ THEN SHOW Q28//
Q28. Are you the parent or primary caregiver to any of the children in your household?
___1. Yes
___2. No

//Ask if total people >1 and zero children in the household//
//IF Q26=>1 AND Q27=0//
Q29. Are you a caregiver to any of the adults in your household (not including yourself)?
___1. Yes
___2. No

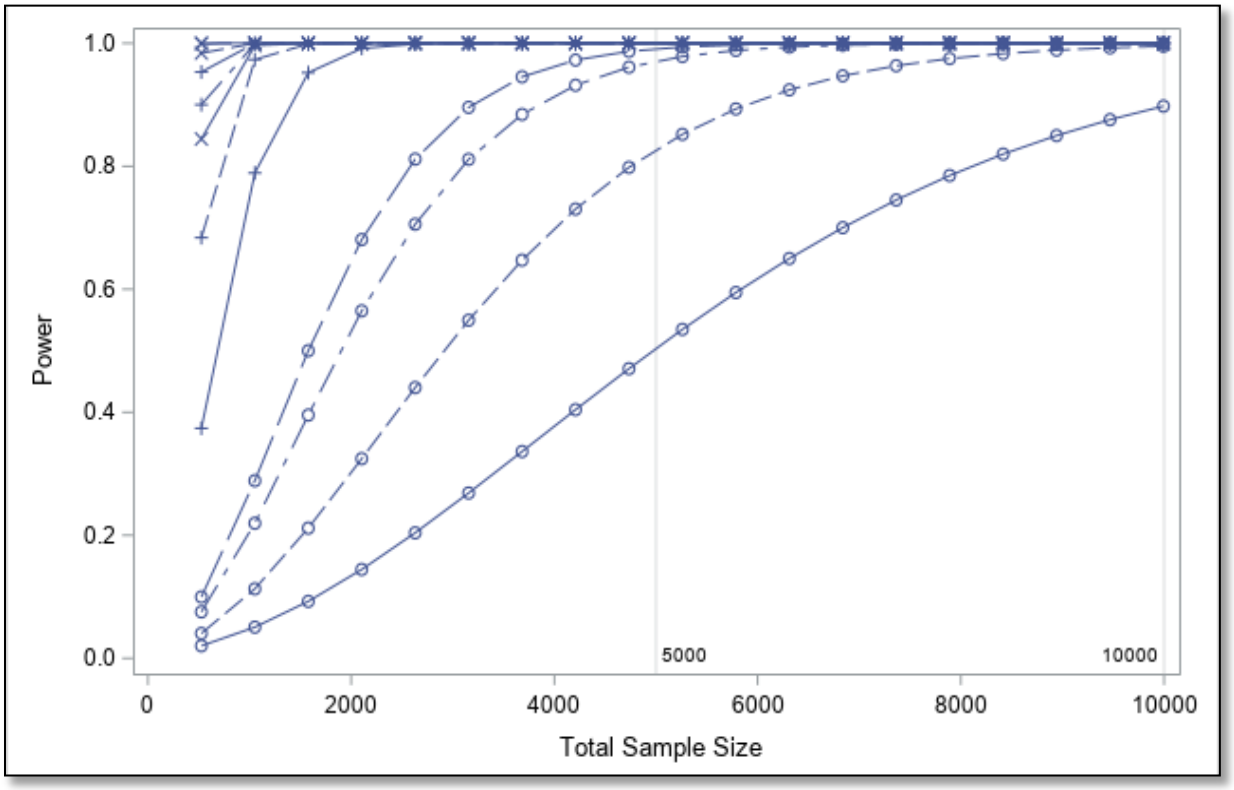
Q31. Please provide any comments you wish.

Appendix D – Power Analysis

Sample sizes were calculated using a logistic regression scenario for predicting percent incorrect (healthiest or unhealthiest label; choice (1=incorrect, 0=correct) using label scheme as the main predictor (7 label schemes), and nutrition knowledge (designed to capture nutrition knowledge 50% higher, 50% lower) and regular use of NFL (regular use, moderate use, no use) as co-predictors with moderate effect (Odds Ratio OR=2.5).

For % incorrect choice ranging from 5% (rare) to 30% (more prevalent), the sample size was estimated for small scheme effect (OR=1.5), medium scheme effect (OR=3) and high scheme effect (OR=5). The sample size was also modified for multiplicity (See Calculations A1, next page).

Exhibit D1. Power for sample sizes ranging from 1000 to 10,000, for ranging as .05, .1, .2 or .3, and small (OR=1.5), medium (OR=3), or high (OR=5) effect of scheme on % incorrect choice.



Even for low % incorrect choice (5%), n=10,000 participants is sufficient to detect even small scheme effects (OR=1.5) with at least 80 percent power. 10,000 participants would further allow for tests of interactions and subgroup analyses such as gender, race ethnicity, education, income, and urbanicity. Adjusted for the repeated measures design (See Calculations A2), the recommended sample size is 6,250. Rounding to nearest hundred, 6,300 participants is recommended.

Calculations:

A1. *Adjusting sample size for multiplicity*

The type 1 error rate, α=.05, was adjusted for multiplicity, using Bonferroni, to account for the number of all pairwise scheme comparisons (k=21).

$$\alpha = 0.05/21 = 0.0024$$

A2. *Adjusting sample size for repeated measures*

In the proposed repeated-scheme design, where each participant would get 3 schemes to evaluate, the 'cluster' (i.e. participant) size (m) is 3. Assuming a moderate correlation (ρ) within participant of .3 (Hemphill, 2003), the design effect (DE) accounting for correlated observations within participant (Eldridge et al., 2006) is

$$DE = 1 + \rho(m-1) = 1 + .3 * 2 = 1.6$$

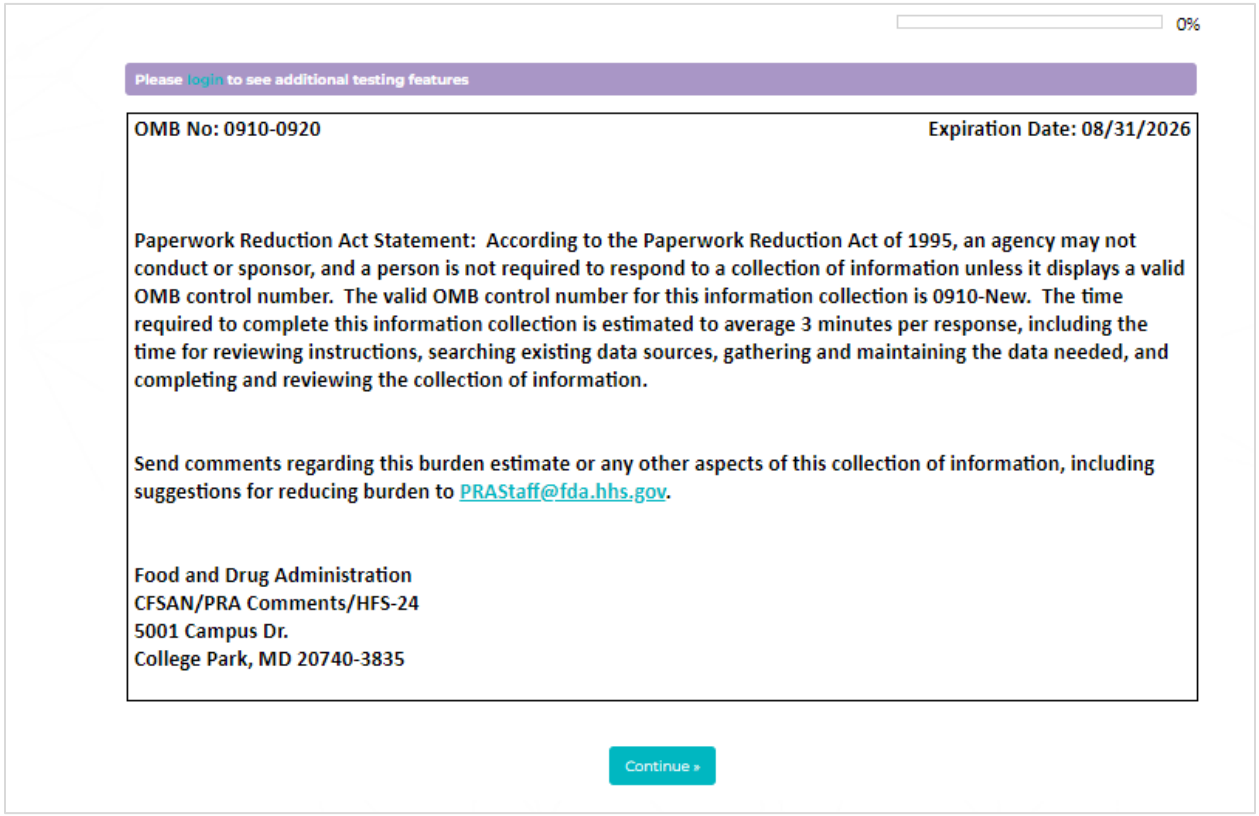
The proposed sample size of 10,000 is adjusted for this DE: the effective sample size is n/DE = 10,000/1.6 = 6,250.

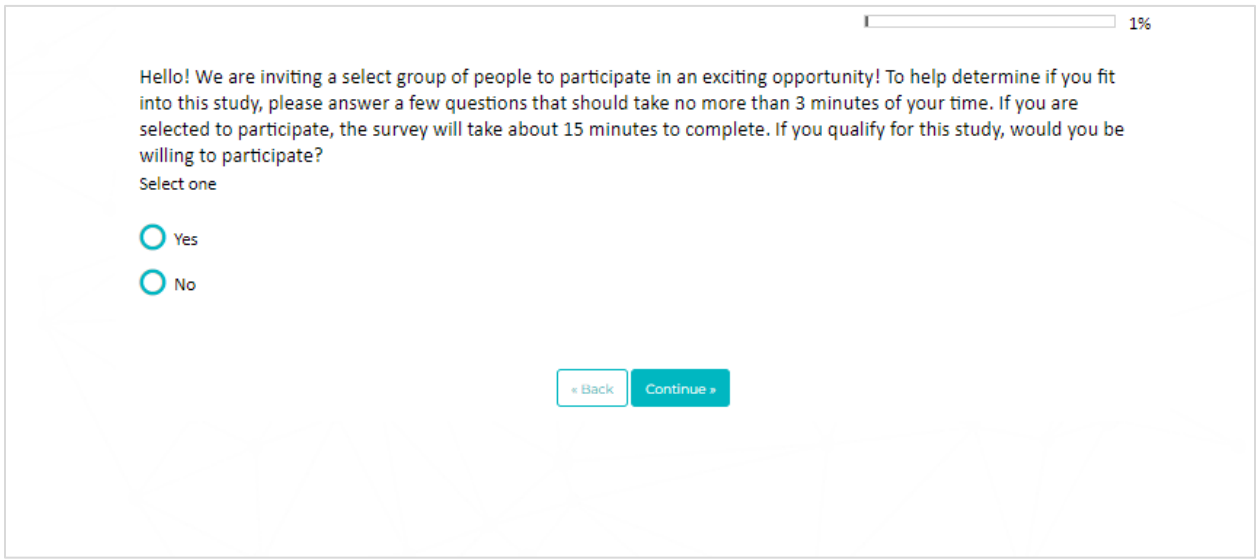
References:

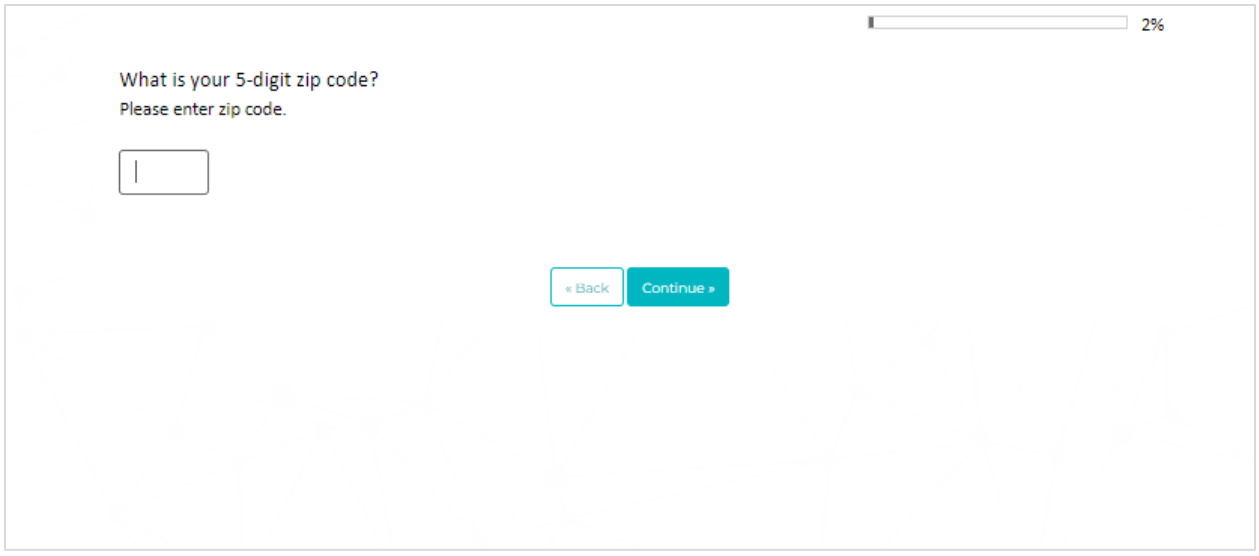
Eldridge, S.M., Ashby, D., Kerry, S. "Sample size for cluster randomized trials: effect of coefficient of variation of cluster size and analysis method." *International Journal of Epidemiology*. 2006;35(5):1292–1300. https://doi.org/10.1093/ije/dyl129.

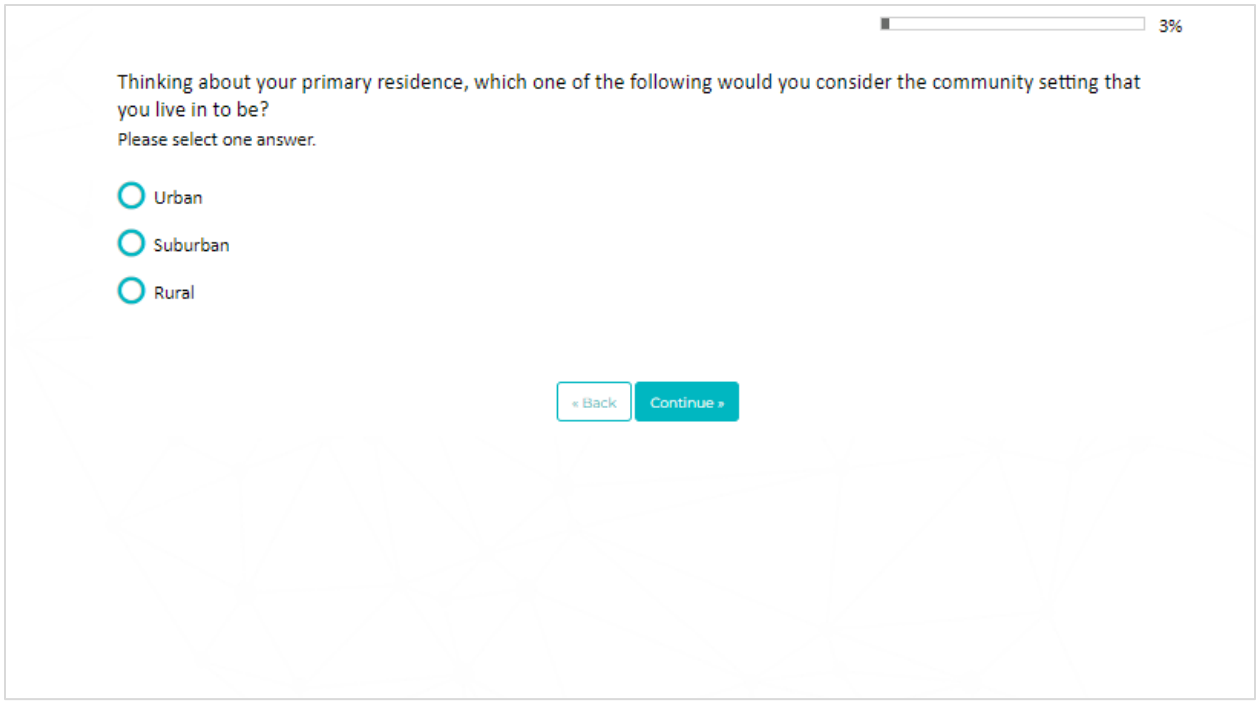
Hemphill, J. "Interpreting the Magnitude of Correlation Coefficients." *American Psychologist.* 2003;58(1):78-79. http://doi.org/10.1037/0003-066X.58.1.78.

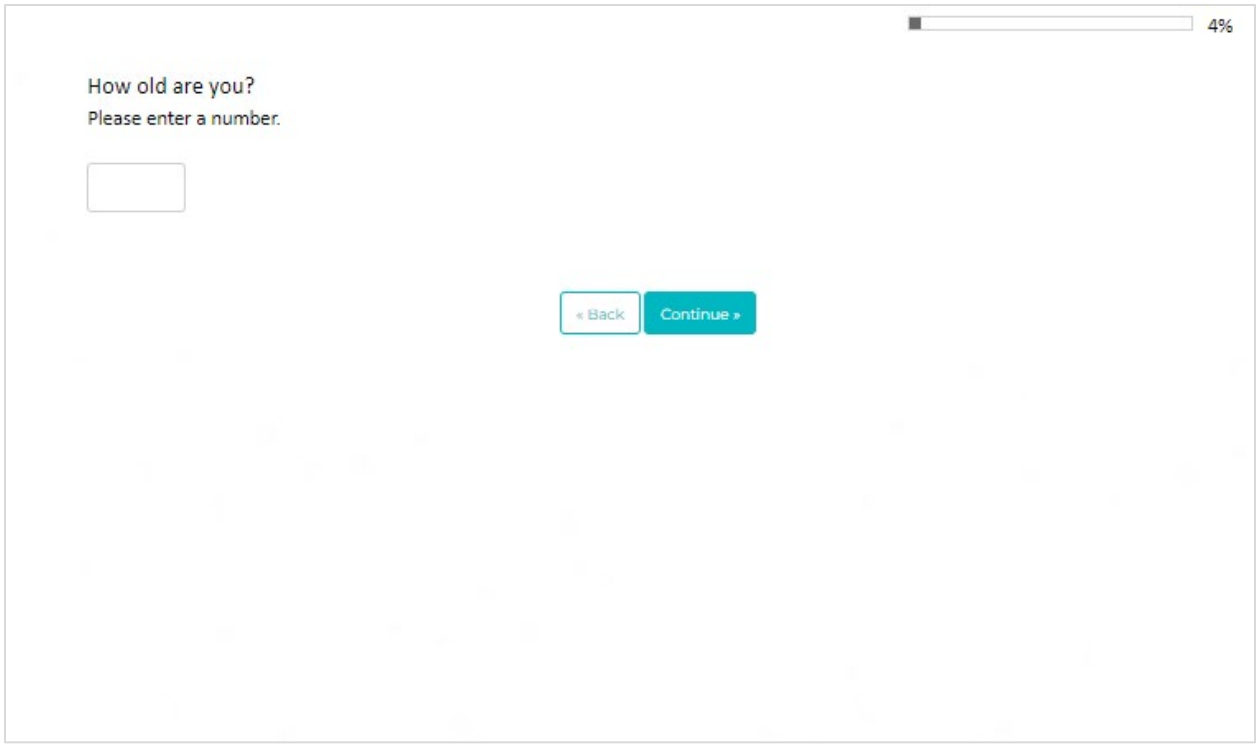
Appendix E – Screenshots of the Screener and the Questionnaire Used in the Experiment

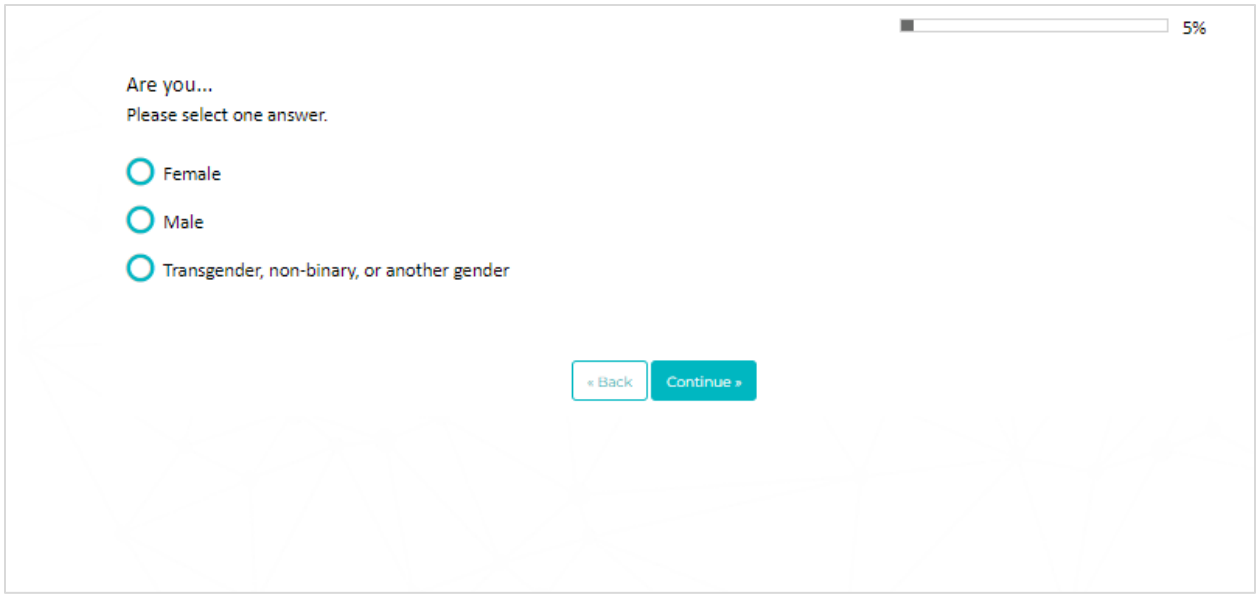


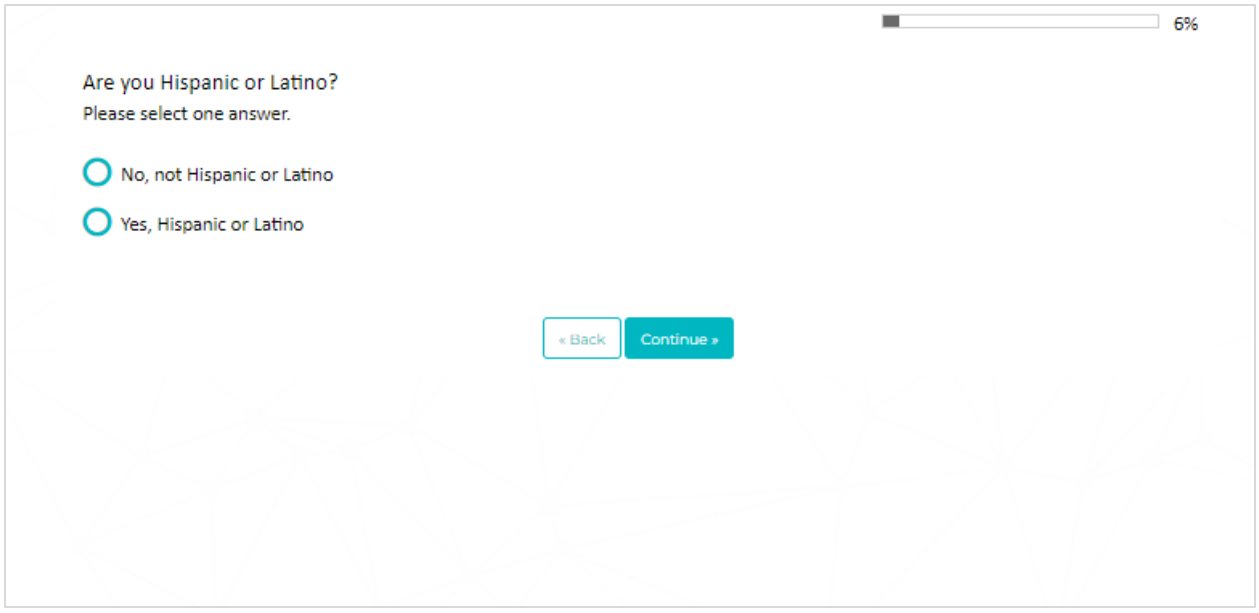


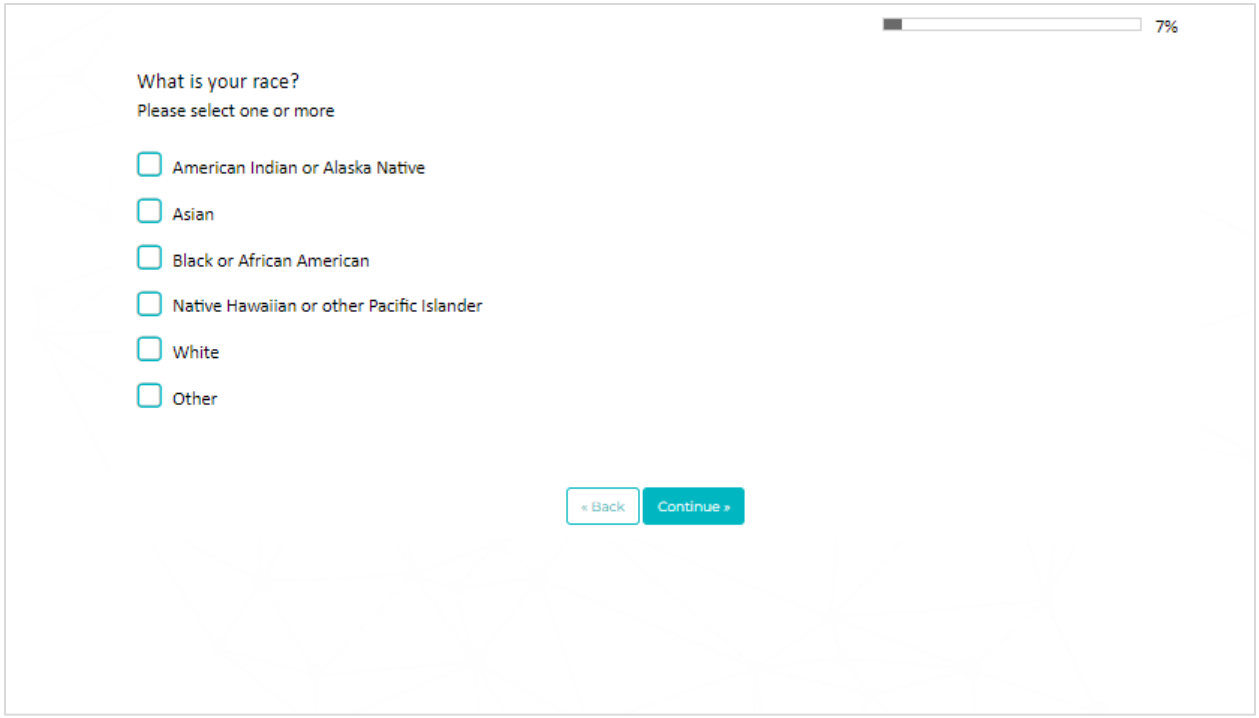

2%
What is your 5-digit zip code?
Please enter zip code.
« Back
Continue »

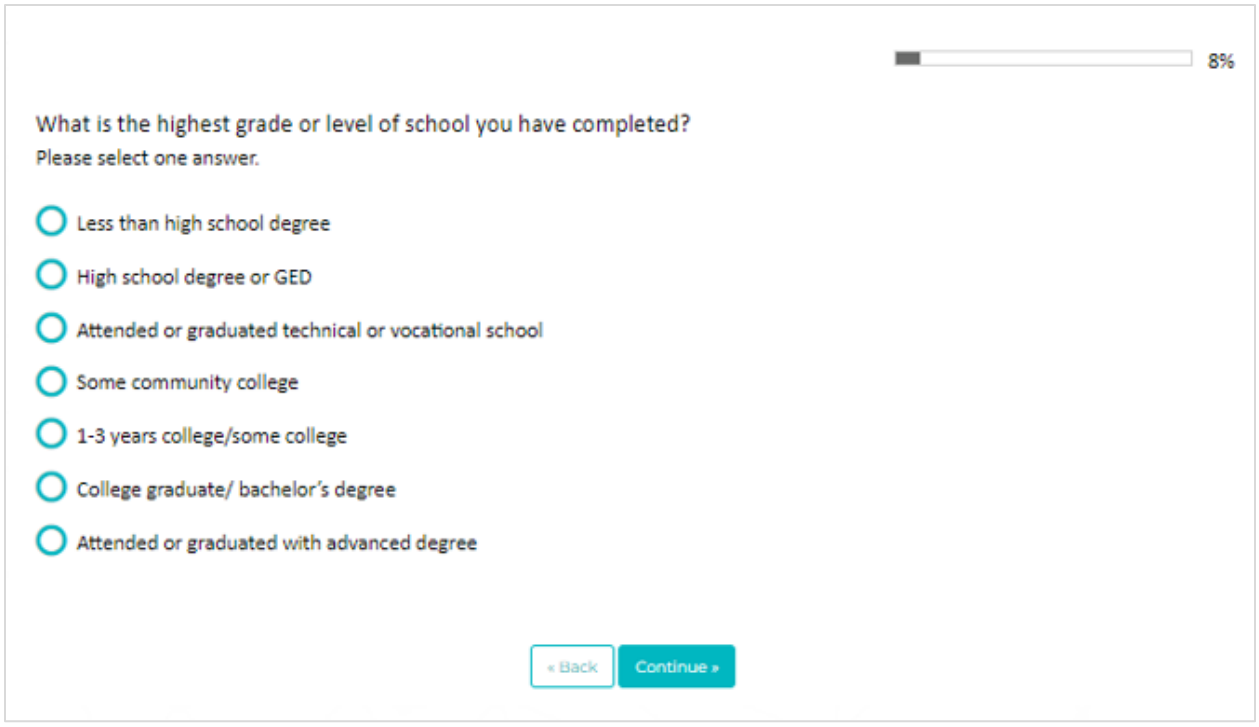

3%
Thinking about your primary residence, which one of the following would you consider the community setting that you live in to be?
Please select one answer.
Urban
Suburban
Rural
« Back
Continue »

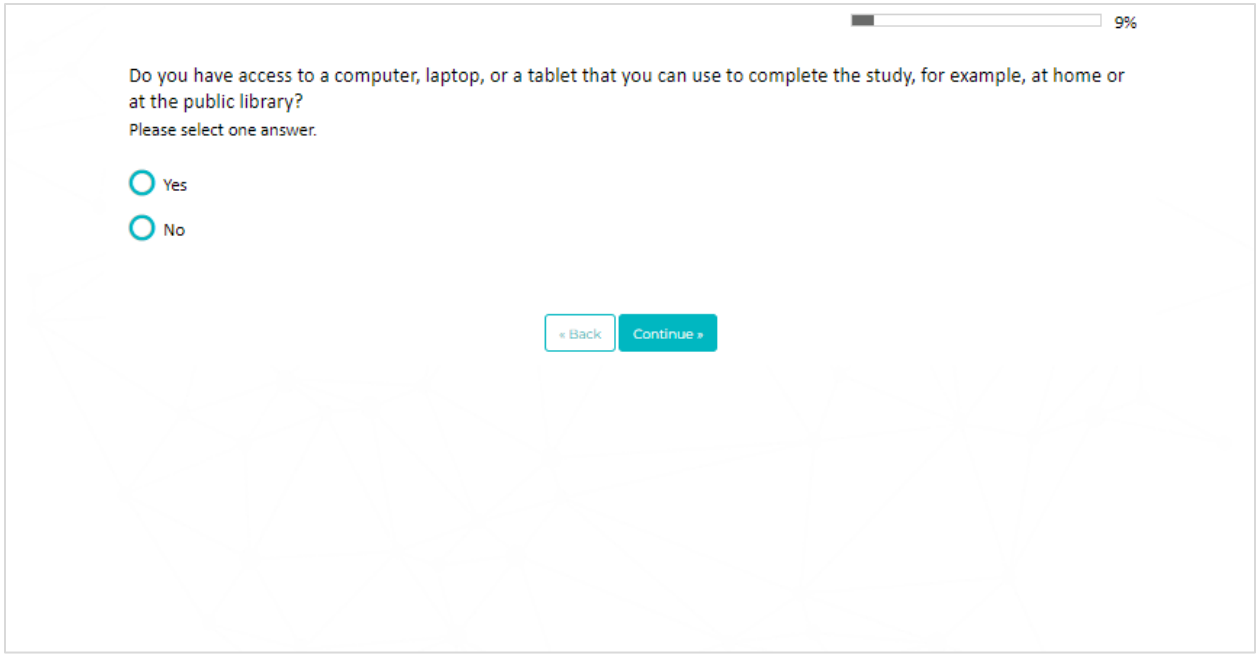

4%
How old are you?
Please enter a number.
« Back
Continue »


5%
Are you...
Please select one answer.
Female
Male
Transgender, non-binary, or another gender
« Back
Continue »


6%
Are you Hispanic or Latino?
Please select one answer.
No, not Hispanic or Latino
Yes, Hispanic or Latino
« Back
Continue »


7%
What is your race?
Please select one or more
American Indian or Alaska Native
Asian
Black or African American
Native Hawaiian or other Pacific Islander
White
Other
« Back
Continue »


8%
What is the highest grade or level of school you have completed?
Please select one answer.
Less than high school degree
High school degree or GED
Attended or graduated technical or vocational school
Some community college
1-3 years college/some college
College graduate/ bachelor's degree
Attended or graduated with advanced degree
« Back
Continue »


9%
Do you have access to a computer, laptop, or a tablet that you can use to complete the study, for example, at home or at the public library?
Please select one answer.
Yes
No
« Back
Continue »

10%

How well do the following statements describe you, where 1 means the statement does not describe you at all and 7 means the statement describes you perfectly.

Drag the slider to a point on the scale.

I always follow a healthy and balanced diet.

1 2 3 4 5 6 7

I eat what I like and I do not worry about healthiness of food.

1 2 3 4 5 6 7

« Back Continue »

12%

This is a two-part fill-in-the-blank question. On this screen, please select the option that best fits part A.

For a healthy diet, we are advised to eat five _____**A**_____ of fruits and vegetables each _____**B**_____.

Please select one answer.

A

- pieces
- ounces
- grams
- servings

« Back Continue »

13%

This is a two-part fill-in-the-blank question. On this screen, please select the option that best fits part B.

For a healthy diet, we are advised to eat five _____**A**_____ of fruits and vegetables each _____**B**_____.

Please select one answer.

B

- day
- morning
- meal
- week

« Back | Continue »

14%

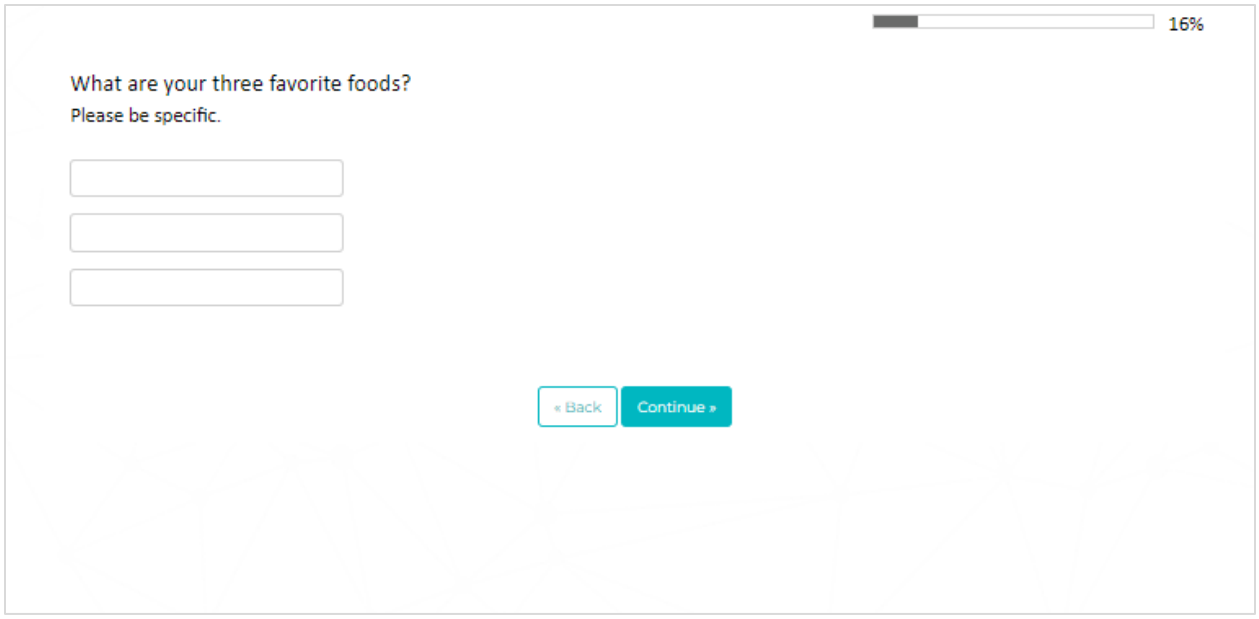
And here is another question:

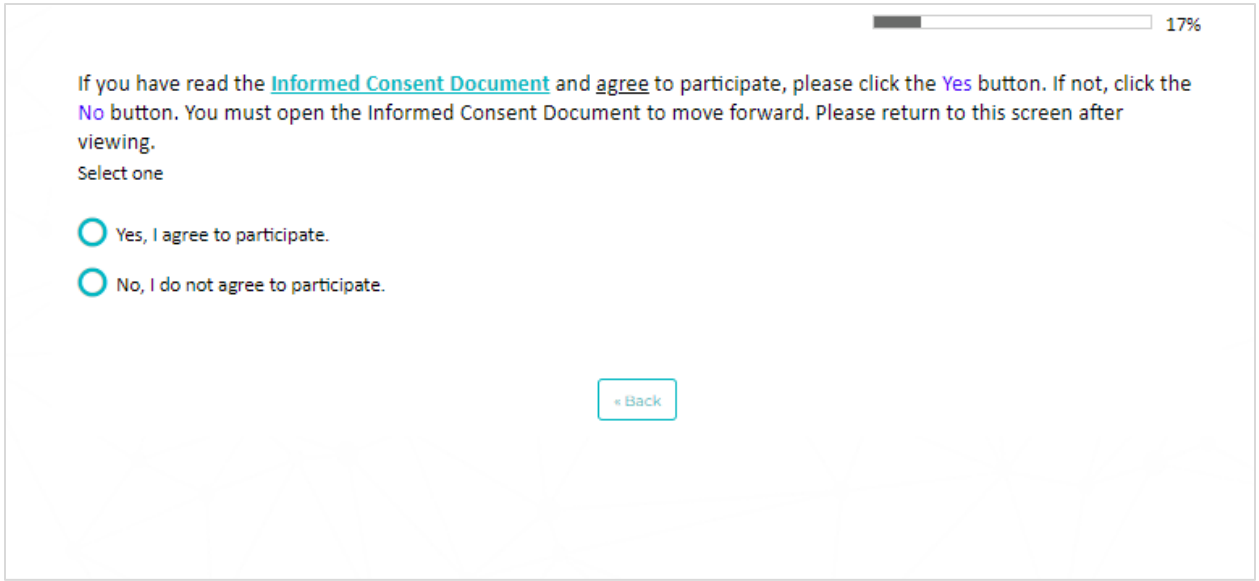
The Nutrition Facts label is often found on the back of a food package. It is the table showing the amount of various nutrients in the food. If the Nutrition Facts label shows that one serving of the food contains 25% of the Daily Value (or DV) of Sodium, based on the information, would you consider a serving of this product to have a low, medium, or high amount of Sodium?

Please select one answer.

- Low
- Medium
- High
- Don't know

« Back | Continue »


16%
What are your three favorite foods?
Please be specific.
« Back
Continue »


17%
If you have read the Informed Consent Document and agree to participate, please click the Yes button. If not, click the No button. You must open the Informed Consent Document to move forward. Please return to this screen after viewing.
Select one
Yes, I agree to participate.
No, I do not agree to participate.
« Back

18%

Thank you for agreeing to participate. We are interested in your views about food labels. Please read each question carefully and then select the answer that best suits you. The information you provide will be kept secure to the extent provided by law. It will take about 15 minutes to answer all the questions. This collection of information is being conducted on behalf of the U.S. Food and Drug Administration.

Please click the "NEXT" button to begin the study.

« Back NEXT »

19%

OMB No: 0910-0920

Expiration date: 08-31-2026

Paperwork Reduction Act Statement

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to:

Food and Drug Administration
CFSAN/PRA Comments/HFS-24
5001 Campus Dr.
College Park, MD 20740-3835

Please click the "NEXT" button.

« Back NEXT »

20%

Nutrition Facts

9 servings per container

Serving size **1 cup (40g)**

Amount per serving

Calories **160**

	% Daily Value*
Total Fat 2g	**3%**
Saturated Fat 0.5g	**4%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 340mg	**15%**
Total Carbohydrate 32g	**12%**
Dietary Fiber 1g	**4%**
Total Sugars 15g	
Includes 8g Added Sugars	**15%**
Protein 3g	

Vit. D 2mcg 10% • Calcium 130mg 10%

Iron 8mg 45% • Potas. 280mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

This is an example of a Nutrition Facts label. We are going to ask you a few questions about the Nutrition Facts label.

« Back Continue »

21%

Nutrition Facts

9 servings per container

Serving size **1 cup (40g)**

Amount per serving

Calories **160**

	% Daily Value*
Total Fat 2g	**3%**
Saturated Fat 0.5g	**4%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 340mg	**15%**
Total Carbohydrate 32g	**12%**
Dietary Fiber 1g	**4%**
Total Sugars 15g	
Includes 8g Added Sugars	**15%**
Protein 3g	

Vit. D 2mcg 10% • Calcium 130mg 10%

Iron 8mg 45% • Potas. 280mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

When buying a packaged food product for the first time, how often do you use the Nutrition Facts label?

Select one

- Never
- Rarely
- Sometimes
- Most of the time
- Always
- Don't know

« Back Continue »

22%

Nutrition Facts

9 servings per container

Serving size **1 cup (40g)**

Amount per serving

Calories **160**

	% Daily Value*
Total Fat 2g	**3%**
Saturated Fat 0.5g	**4%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 340mg	**15%**
Total Carbohydrate 32g	**12%**
Dietary Fiber 1g	**4%**
Total Sugars 15g	
Includes 8g Added Sugars	**15%**
Protein 3g	

Vit. D 2mcg 10% • Calcium 130mg 10%

Iron 8mg 45% • Potas. 280mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

When you buy packaged foods for the first time, how often do you use the Nutrition Facts label to compare how healthy or nutritious different foods are?

Select one

- Never
- Rarely
- Sometimes
- Most of the time
- Always
- Don't know

« Back Continue »

23%

Nutrition Facts

9 servings per container
Serving size **1 cup (40g)**

Amount per serving
Calories **160**

	% Daily Value*
Total Fat 2g	**3%**
Saturated Fat 0.5g	**4%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 340mg	**15%**
Total Carbohydrate 32g	**12%**
Dietary Fiber 1g	**4%**
Total Sugars 15g	
Includes 8g Added Sugars	**15%**
Protein 3g	

Vit. D 2mcg 10% • Calcium 130mg 10%
Iron 8mg 45% • Potas. 280mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

How often, if at all, do you use the Nutrition Facts label to see how high or low the food is in things like saturated fat, sodium, or added sugars?

Select one

- Never
- Rarely
- Sometimes
- Most of the time
- Always
- Don't know

« Back | Continue »

24%

Nutrition Facts

9 servings per container
Serving size **1 cup (40g)**

Amount per serving
Calories **160**

	% Daily Value*
Total Fat 2g	**3%**
Saturated Fat 0.5g	**4%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 340mg	**15%**
Total Carbohydrate 32g	**12%**
Dietary Fiber 1g	**4%**
Total Sugars 15g	
Includes 8g Added Sugars	**15%**
Protein 3g	

Vit. D 2mcg 10% · Calcium 130mg 10%
Iron 8mg 45% · Potas. 280mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

How confident are you that you understand the Nutrition Facts label?
Select one

- Not at all confident
- A little confident
- Somewhat confident
- Very confident
- Extremely confident

« Back Continue »

25%

On average, how often do you eat the following food products?
Select one for each row

	Daily	A few times a week	Once a week	Once or twice a month	Less than once a month	Never	Don't know
Canned soup	○	○	○	○	○	○	○
Frozen meals or entrees	○	○	○	○	○	○	○
Breakfast cereal	○	○	○	○	○	○	○

« Back Continue »

26%

The Food and Drug Administration (FDA) is exploring the idea of developing nutrition labels for food companies to put on the front of food packages to help consumers more quickly and easily identify foods that are part of a healthy eating pattern. These labels are called Front of Package nutrition labels.

In this survey, you will be asked to look at different kinds of Front of Package nutrition labels and answer questions about them. The image below shows an example of what we mean by Front of Package nutrition labels.

« Back Continue »

27%

Please look at the three Front of Package nutrition labels below and follow the instructions as quickly as you can.

Which one of the three Front of Package nutrition labels shows the **healthiest** overall nutrient profile?

IF NEEDED, click image for more nutrition detail.

Select one

« Back Continue »

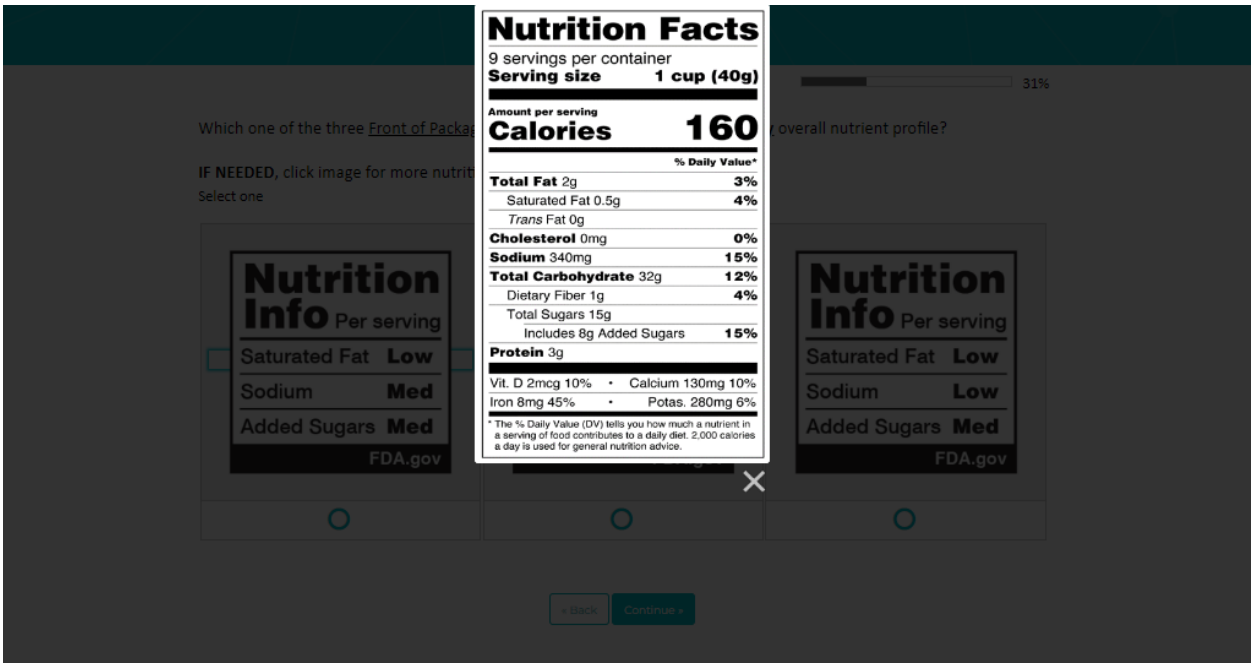
31%

Which one of the three Front of Package nutrition labels shows the **least healthy** overall nutrient profile?

IF NEEDED, click image for more nutrition detail.

Select one

« Back Continue »



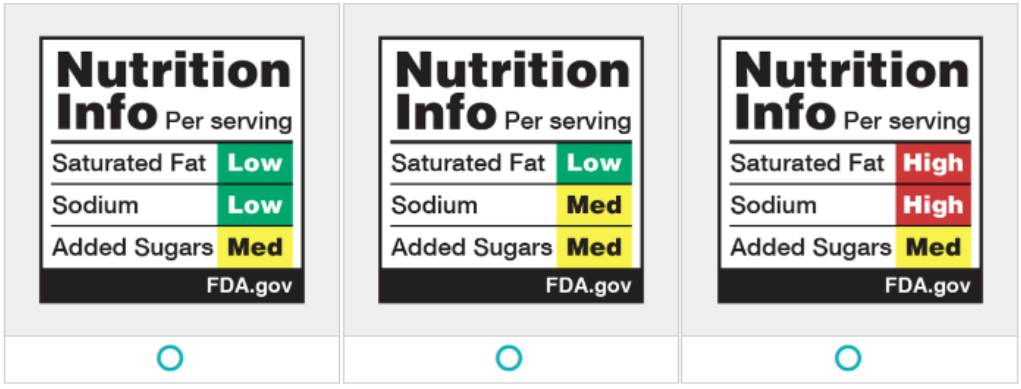
33%

Please look at the three Front of Package nutrition labels below and follow the instructions as quickly as you can.

Which one of the three Front of Package nutrition labels shows the **healthiest** overall nutrient profile?

IF NEEDED, click image for more nutrition detail.

Select one



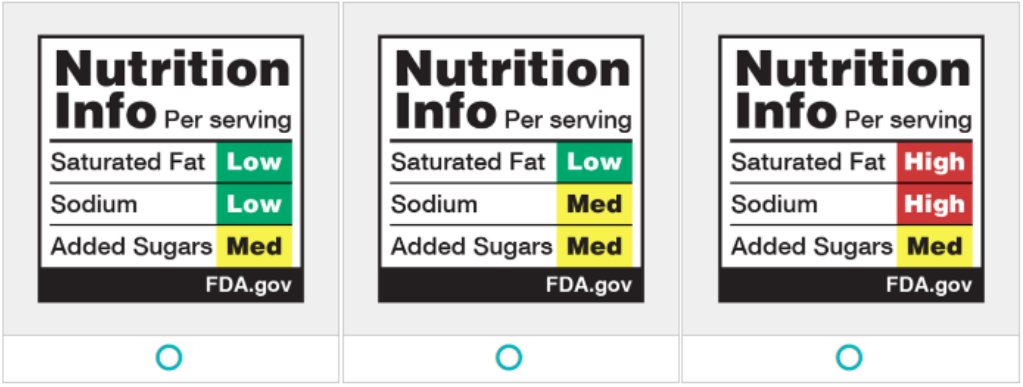
« Back Continue »

34%

Which one of the three Front of Package nutrition labels shows the **least healthy** overall nutrient profile?

IF NEEDED, click image for more nutrition detail.

Select one



« Back Continue »

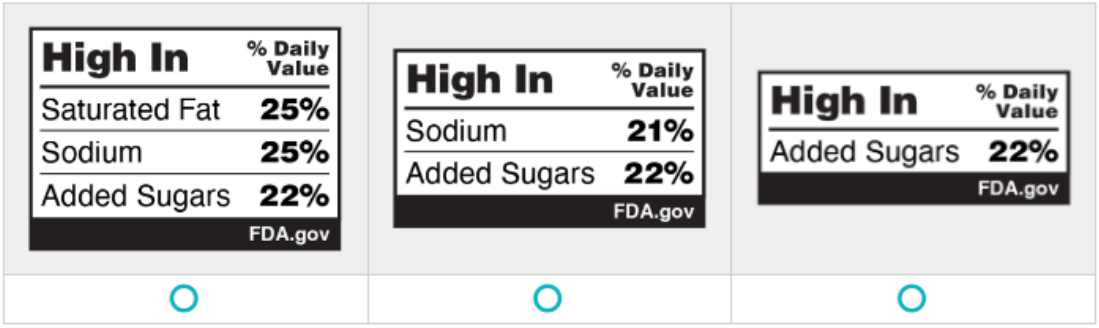
36%

Please look at the three Front of Package nutrition labels below and follow the instructions as quickly as you can.

Which one of the three Front of Package nutrition labels shows the **healthiest** overall nutrient profile?

IF NEEDED, click image for more nutrition detail.

Select one



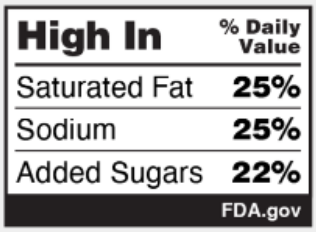
« Back Continue »

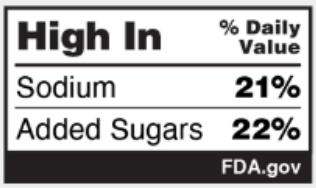
50%

Which one of the three Front of Package nutrition labels shows the **least healthy** overall nutrient profile?

IF NEEDED, click image for more nutrition detail.

Select one





« Back Continue »

51%

In the previous section, you clicked on at least one image for more nutrition detail. Can you tell us why you clicked on the image(s)?

Please select all that apply.

- [ ] I thought clicking on the image would make it bigger
- [ ] I accidentally clicked the image
- [ ] I *needed* more nutrition information to answer the question(s)
- [ ] I *wanted* to see more nutrition information, not just what was provided on the Front of Package nutrition label
- [ ] Other (specify)

« Back Continue »

45%

Please take a moment to look at this food product. How much do you disagree or agree with the following statements?

Select one in each row

	Strongly Disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
I can easily use information on this label to determine if this food can be part of a healthful dietary pattern.	○	○	○	○	○	○
I can easily find nutrition information on this label.	○	○	○	○	○	○

« Back Continue »

55%

In your opinion, how healthy is this food product?

Select one

- ○ Not healthy
- ○ Slightly unhealthy
- ○ Slightly healthy
- ○ Moderately healthy
- ○ Healthy
- ○ Very healthy
- ○ Don't know

« Back Continue »

57%

What is your reaction to how the **food package** is communicating the healthfulness of the food?

Select one in each row

1	2	3	4	5	6	Don't Know
Not Believable					Believable	
Not Trustworthy					Trustworthy	
Not Convincing					Convincing	
Not Credible					Credible	
Not Reasonable					Reasonable	
Simple					Complex	

« Back Continue »

59%

The Dietary Guidelines for Americans recommends limiting the consumption of foods and beverages that are higher in saturated fat, sodium, or added sugar.

Please tell us how much you disagree or agree with the following statements.

Select one in each row

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Don't know
A person can eat this product regularly even if they are limiting their consumption of saturated fat, sodium, or added sugars						
A person can sometimes eat this product even if they are limiting their consumption of saturated fat, sodium, or added sugars						

« Back Continue »

68%

The next few questions are about the Front of Package nutrition label that is on the food package. Please use the Front of Pack nutrition label for the next set of questions.

« Back Continue »

69%

How confident are you that you could use this Front of Package nutrition label to help you make decisions about how well the food fits into a healthful diet?

Select one

1 No confidence	○
2	○
3	○
4	○
5 Extremely confident	○
Don't Know	○

« Back Continue »

71%

For each of the following statements, please indicate how much you disagree or agree.

Select one in each row

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Don't Know
It would be easy to use this Front of Package nutrition label to select healthful foods.	○	○	○	○	○	○
I would quickly notice this Front of Package nutrition label.	○	○	○	○	○	○
It is easy to understand the information in this Front of Package nutrition label.	○	○	○	○	○	○
This Front of Package nutrition label is useful in helping me decide whether to consume the product.	○	○	○	○	○	○
I like the format or layout of this Front of Package nutrition label.	○	○	○	○	○	○
It would be easy to use this Front of Package nutrition label to compare between products.	○	○	○	○	○	○

« Back Continue »

73%

Using the Front of Package nutrition label, how low or high is this product in the following nutrients? Please use the scale below.

Select one in each row

	1 Low	2	3	4	5	6 High	Don't know
Sodium	○	○	○	○	○	○	○
Saturated Fat	○	○	○	○	○	○	○
Added Sugars	○	○	○	○	○	○	○

« Back Continue »

75%

In your own words, please tell us what comes to mind when you look at this **Front of Package nutrition label**.

Please be as specific as possible

« Back | Continue »

77%

The Nutrition Facts label on the right shows that one serving of the food contains 15% of the Daily Value (DV) of Total Carbohydrate. Based on the information, would you consider the % Daily Value for Total Carbohydrate "High," "Low," or somewhere in between?

Select one

- ○ The % Daily Value for Total Carbohydrate is High
- ○ The % Daily Value for Total Carbohydrate is somewhere in between High and Low
- ○ The % Daily Value for Total Carbohydrate is Low
- ○ Don't know

Nutrition Facts

2 servings per container

Serving size **1 cup (255g)**

Amount per serving

Calories **250**

	% Daily Value*
Total Fat 5g	**7%**
Saturated Fat 2g	**10%**
Trans Fat 0g	
Cholesterol 15mg	**5%**
Sodium 460mg	**20%**
Total Carbohydrate 41g	**15%**
Dietary Fiber 6g	**24%**
Total Sugars 7g	
Includes 5g Added Sugars	**10%**
Protein 9g	

Vit. D 2mcg 10% • Calcium 260mg 20%

Iron 2mg 10% • Potas. 240mg 6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

« Back | Continue »

78%

Now we have some questions about your food habits. For each of the following statements, please indicate how much you disagree or agree.

Select one in each row

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Don't Know
I am confident that I know how to choose healthy foods.	○	○	○	○	○	○
If I eat a healthy diet, I can reduce my chance of getting heart disease.	○	○	○	○	○	○
Eating a healthy diet is important for my long-term health.	○	○	○	○	○	○

« Back | Continue »

79%

In general, how nutritious are these foods?

Drag all sliders to the placement you want (even to indicate the lowest score)

Canned bean soup

Not at all nutritious — Very nutritious

☐ *Don't know*

Regular (not diet) carbonated soft drink (Soda, Pop)

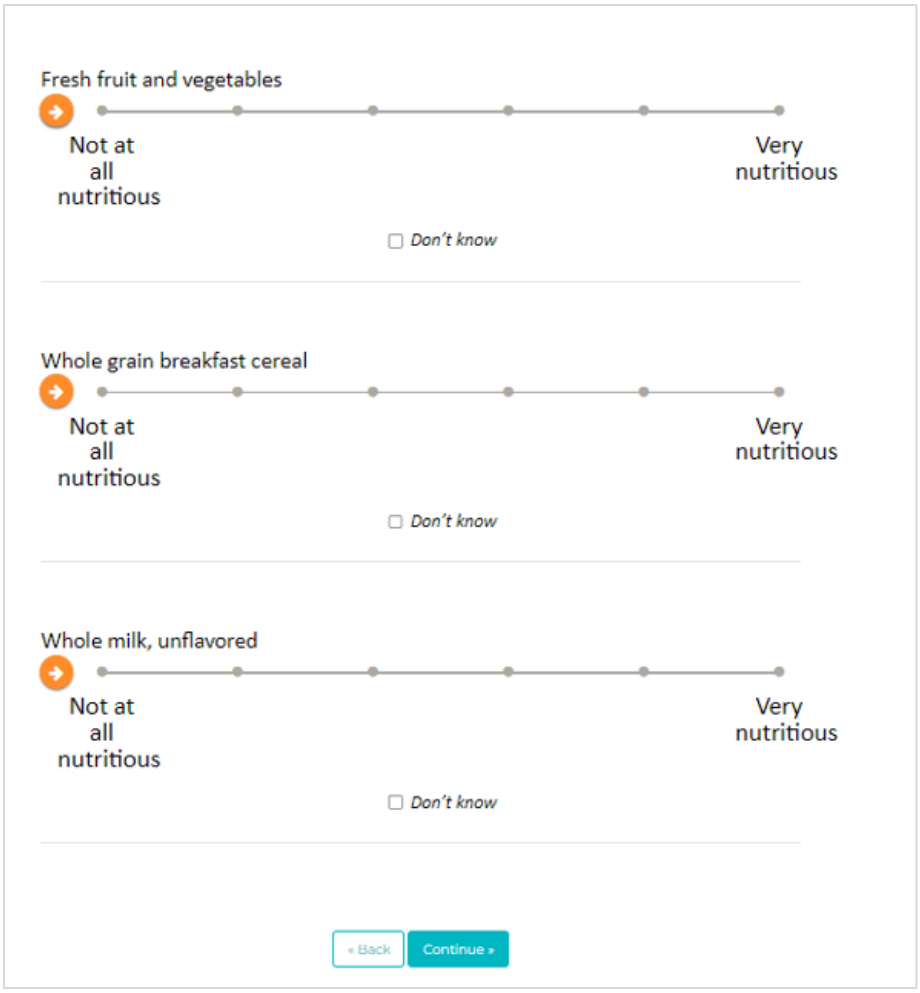
Not at all nutritious — Very nutritious

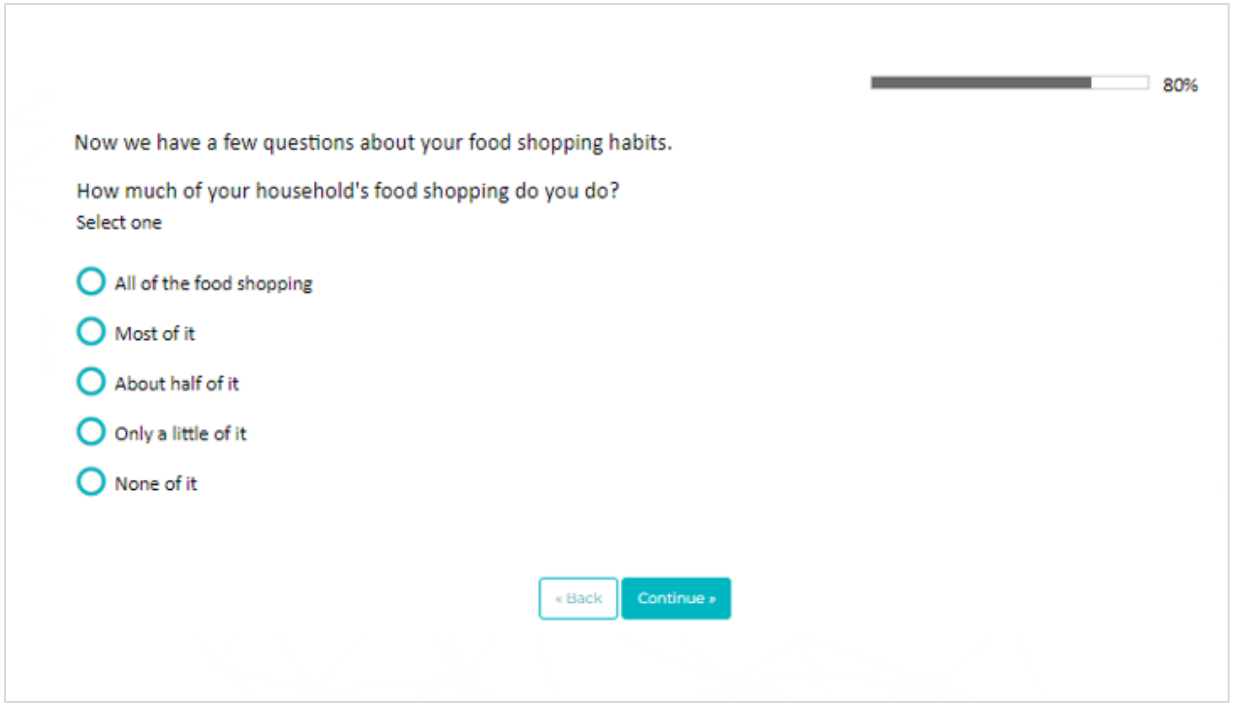
☐ *Don't know*

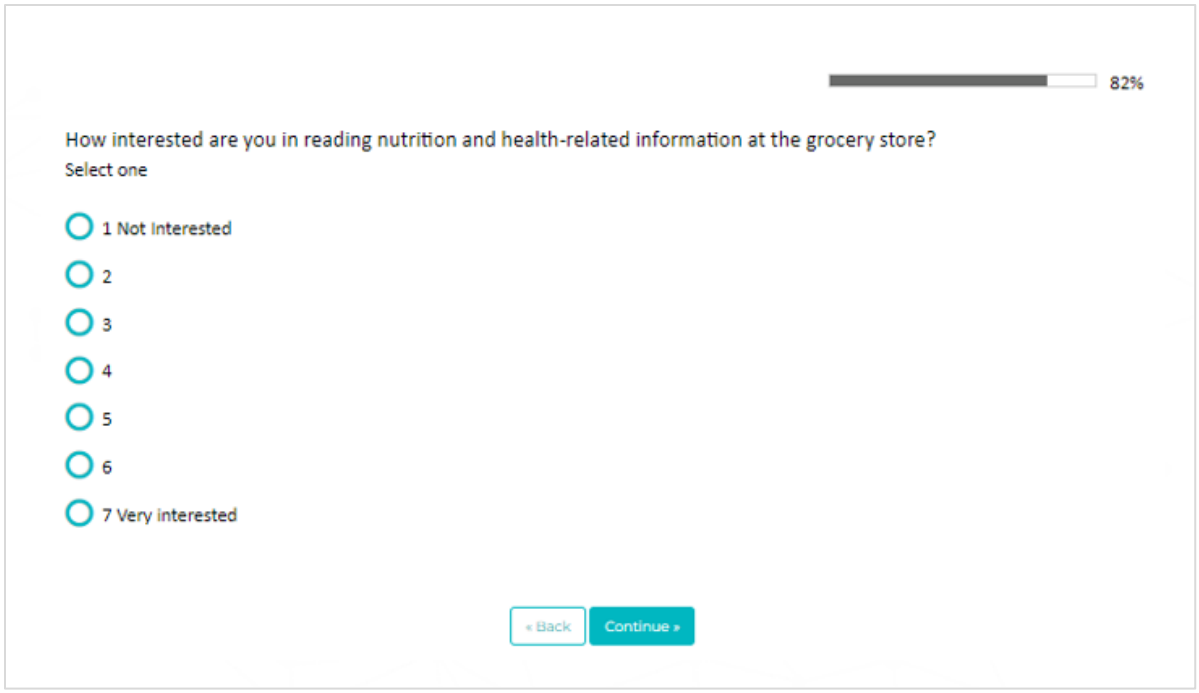
Vegetable-based frozen meal

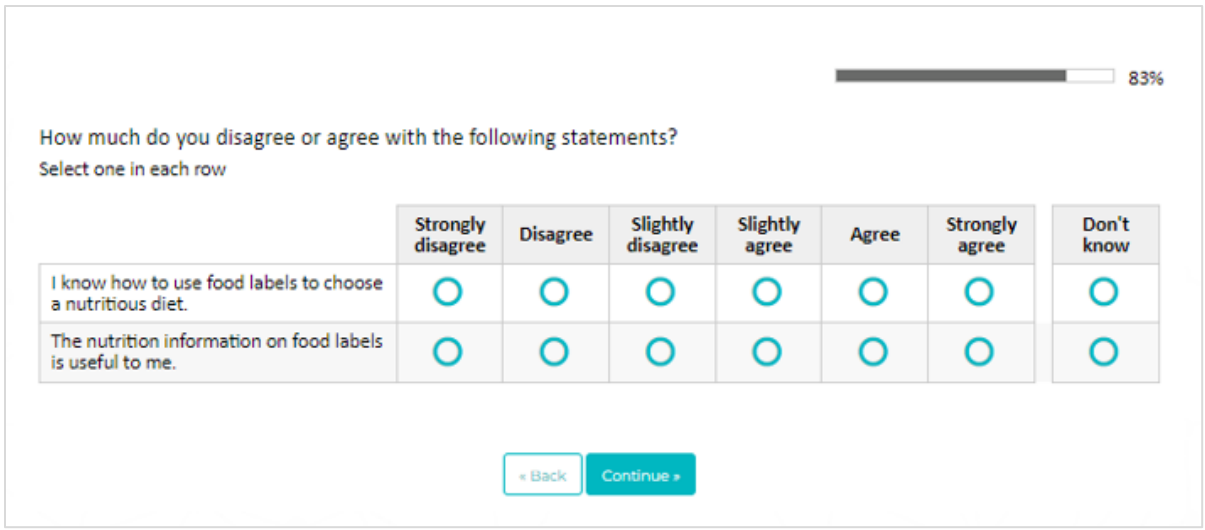
Not at all nutritious — Very nutritious

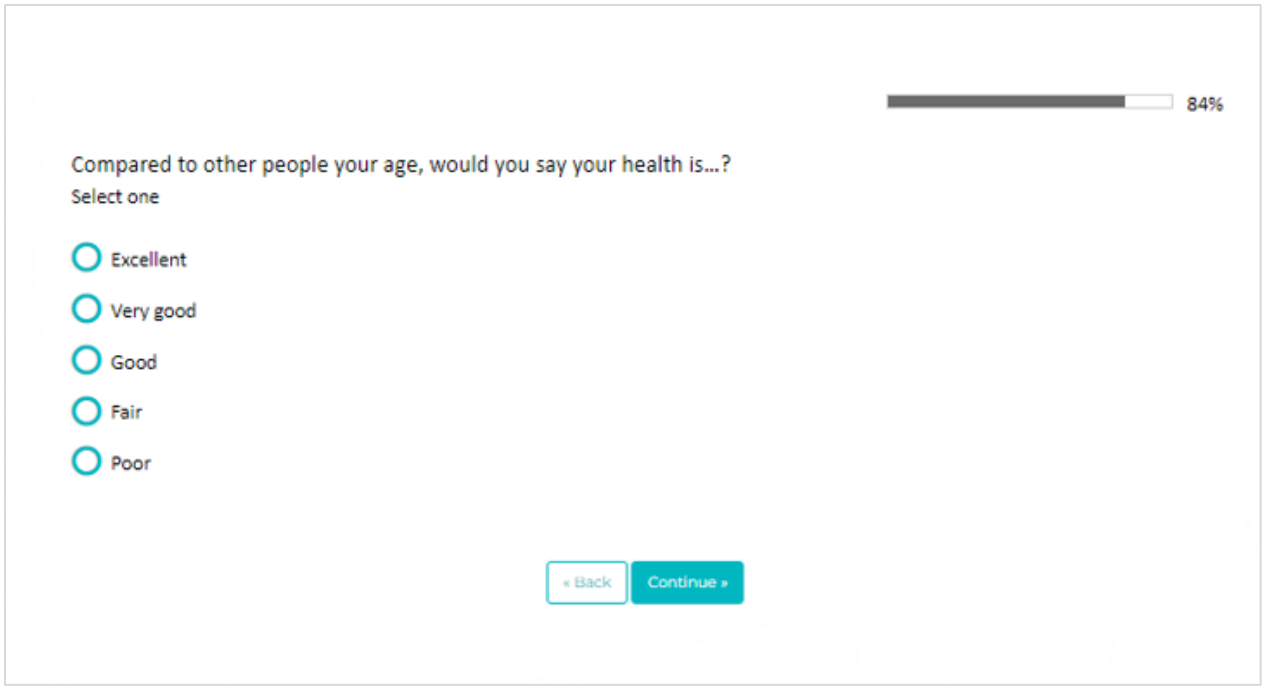
☐ *Don't know*

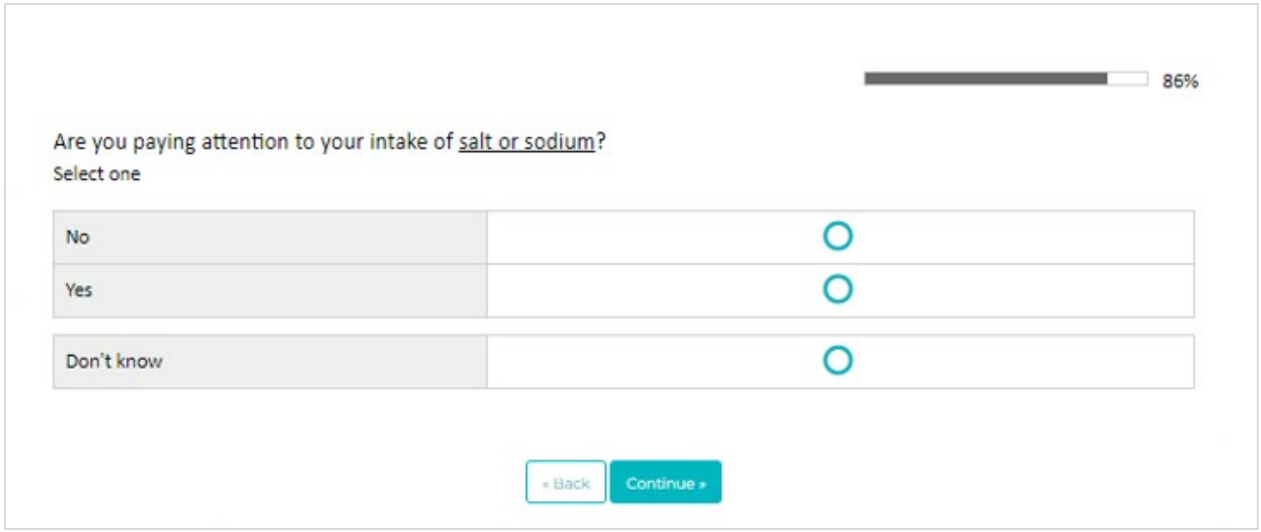

Fresh fruit and vegetables
Not at all nutritious
Very nutritious
Don't know
Whole grain breakfast cereal
Not at all nutritious
Very nutritious
Don't know
Whole milk, unflavored
Not at all nutritious
Very nutritious
Don't know
« Back
Continue »

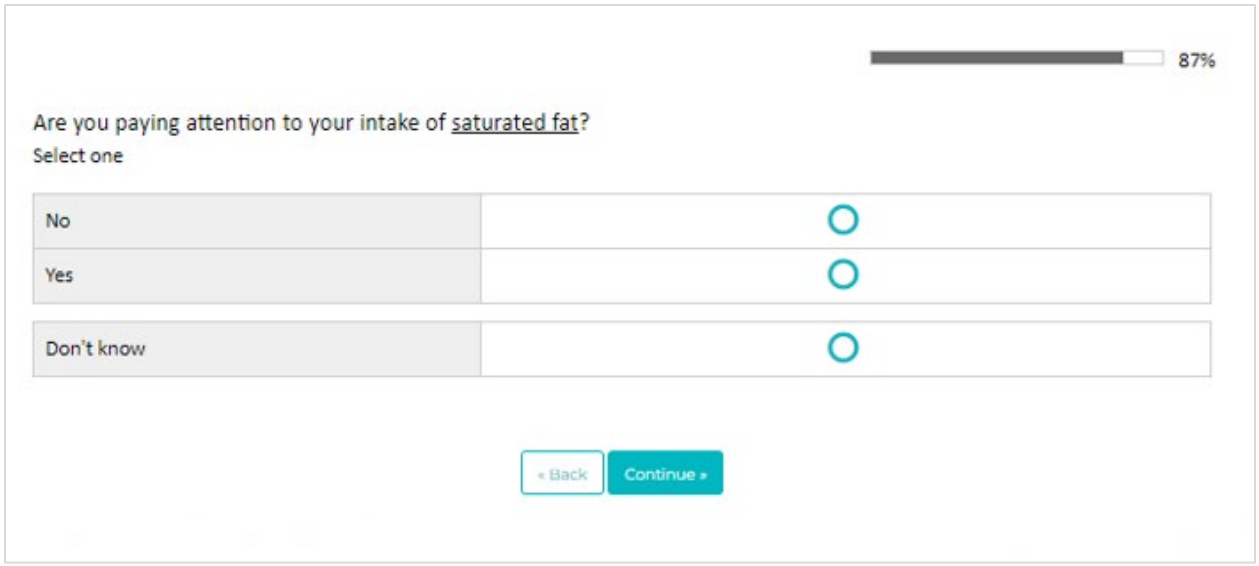

80%
Now we have a few questions about your food shopping habits.
How much of your household's food shopping do you do?
Select one
All of the food shopping
Most of it
About half of it
Only a little of it
None of it
« Back
Continue »

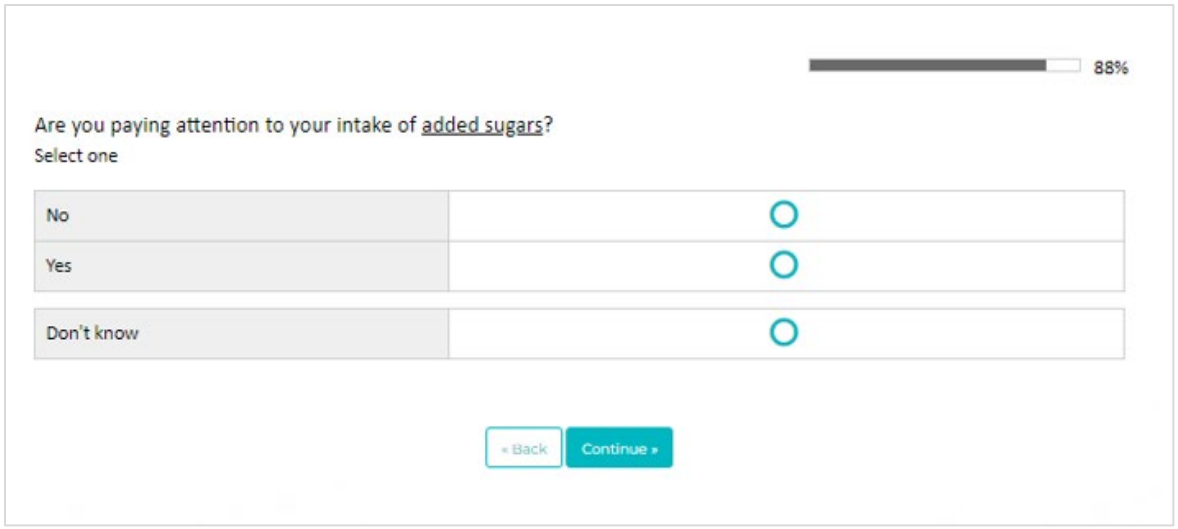

82%
How interested are you in reading nutrition and health-related information at the grocery store?
Select one
1 Not Interested
2
3
4
5
6
7 Very interested
« Back
Continue »

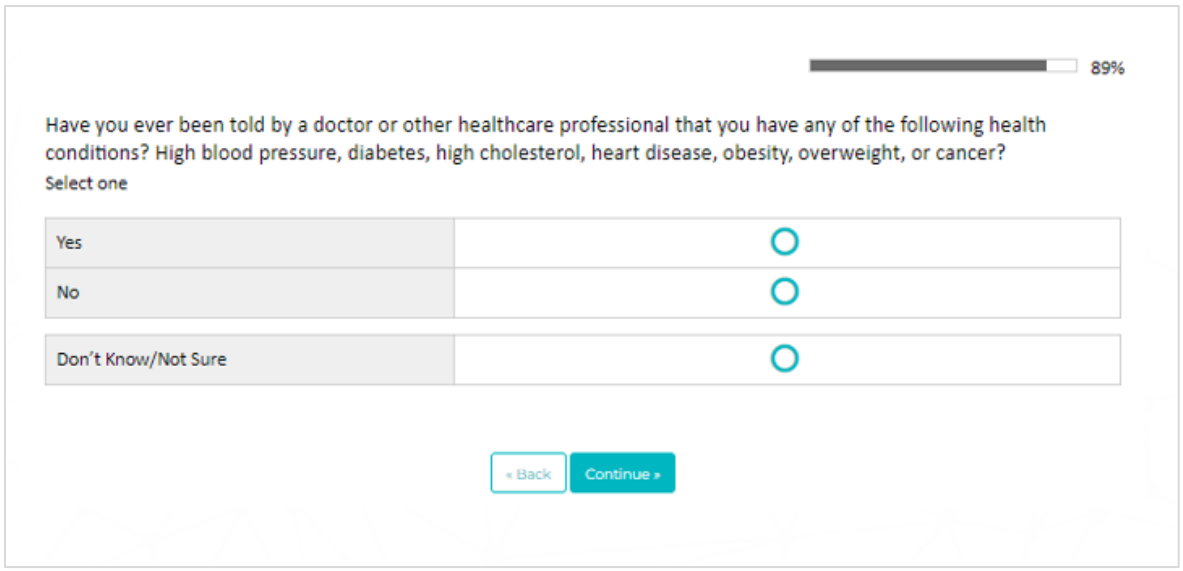

83%
How much do you disagree or agree with the following statements?
Select one in each row
Strongly disagree
Disagree
Slightly disagree
Slightly agree
Agree
Strongly agree
Don't know
I know how to use food labels to choose a nutritious diet.
The nutrition information on food labels is useful to me.
« Back
Continue »


84%
Compared to other people your age, would you say your health is...?
Select one
Excellent
Very good
Good
Fair
Poor
« Back
Continue »

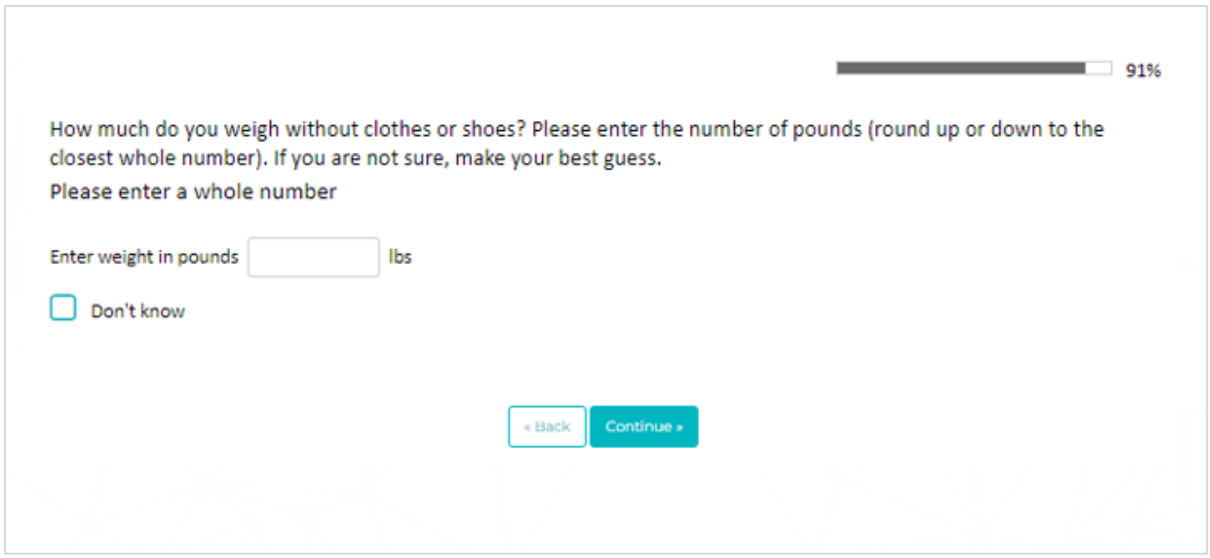

86%
Are you paying attention to your intake of salt or sodium?
Select one
No
Yes
Don't know
« Back
Continue »


87%
Are you paying attention to your intake of saturated fat?
Select one
No
Yes
Don't know
« Back
Continue »

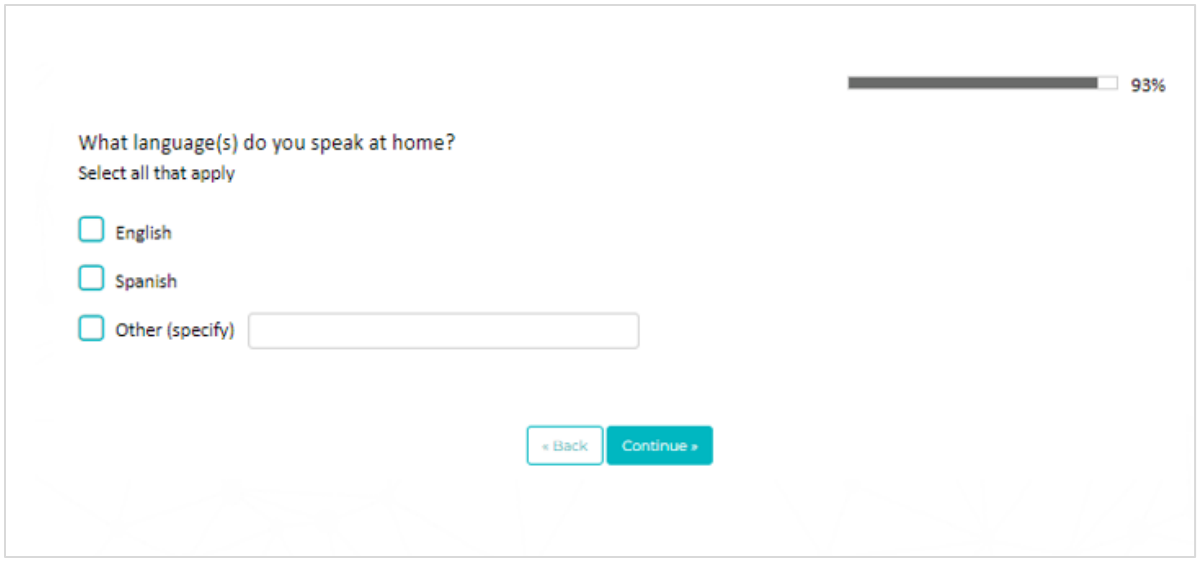

88%
Are you paying attention to your intake of added sugars?
Select one
No
Yes
Don't know
« Back
Continue »

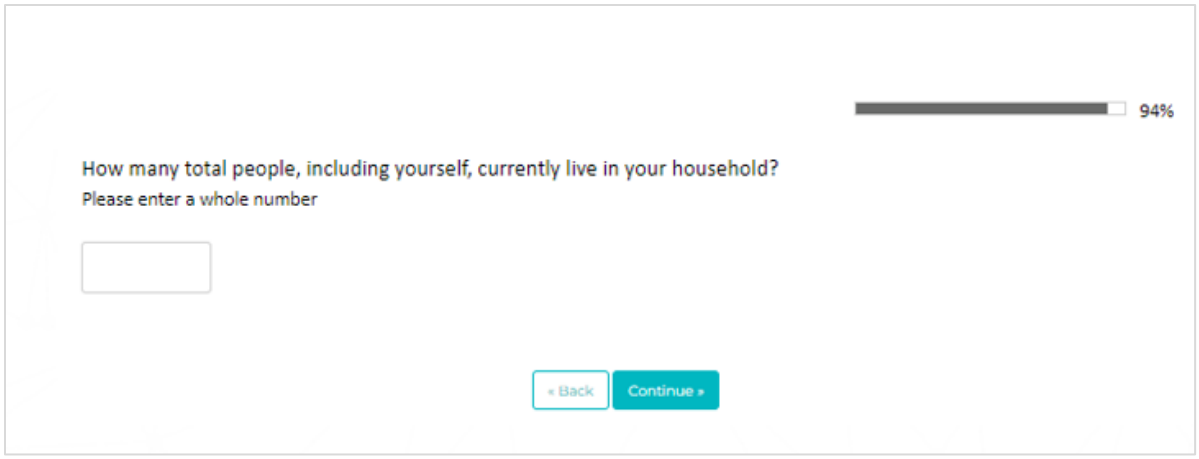

89%
Have you ever been told by a doctor or other healthcare professional that you have any of the following health conditions? High blood pressure, diabetes, high cholesterol, heart disease, obesity, overweight, or cancer?
Select one
Yes
No
Don't Know/Not Sure
« Back
Continue »

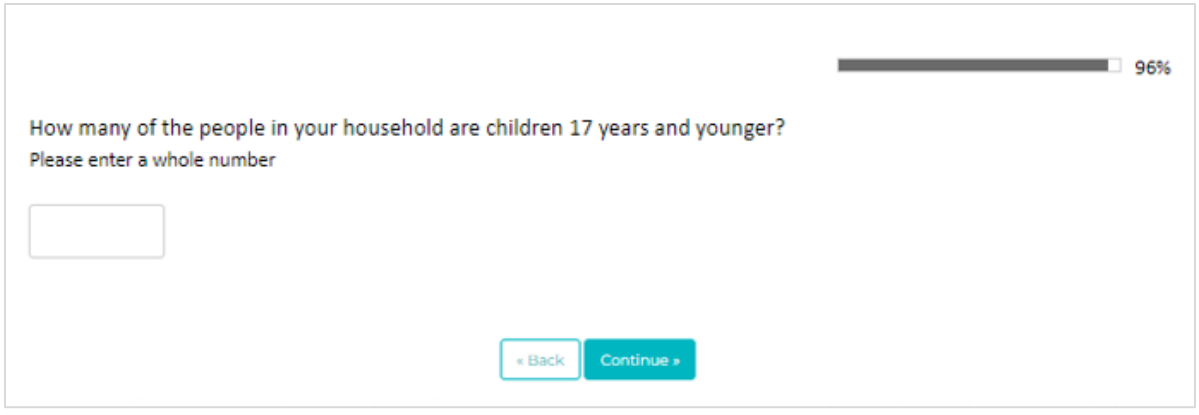

90%
How tall are you without shoes? Please enter a number in both "feet" and "inches." If you are not sure, make your best guess.
Please enter a whole number
ft
inches
« Back
Continue »


91%
How much do you weigh without clothes or shoes? Please enter the number of pounds (round up or down to the closest whole number). If you are not sure, make your best guess.
Please enter a whole number
Enter weight in pounds
lbs
Don't know
« Back
Continue »


92%
How do you rate your reading ability?
Select one
Excellent
Very good
Good
Fair
Poor
« Back
Continue »


93%
What language(s) do you speak at home?
Select all that apply
English
Spanish
Other (specify)
« Back
Continue »


94%
How many total people, including yourself, currently live in your household?
Please enter a whole number
« Back
Continue »


96%
How many of the people in your household are children 17 years and younger?
Please enter a whole number
« Back
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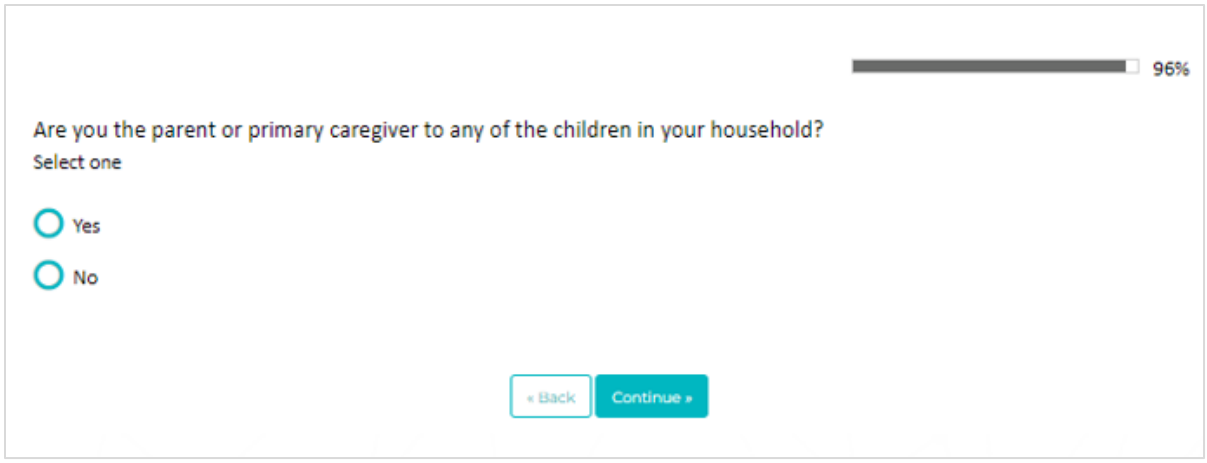
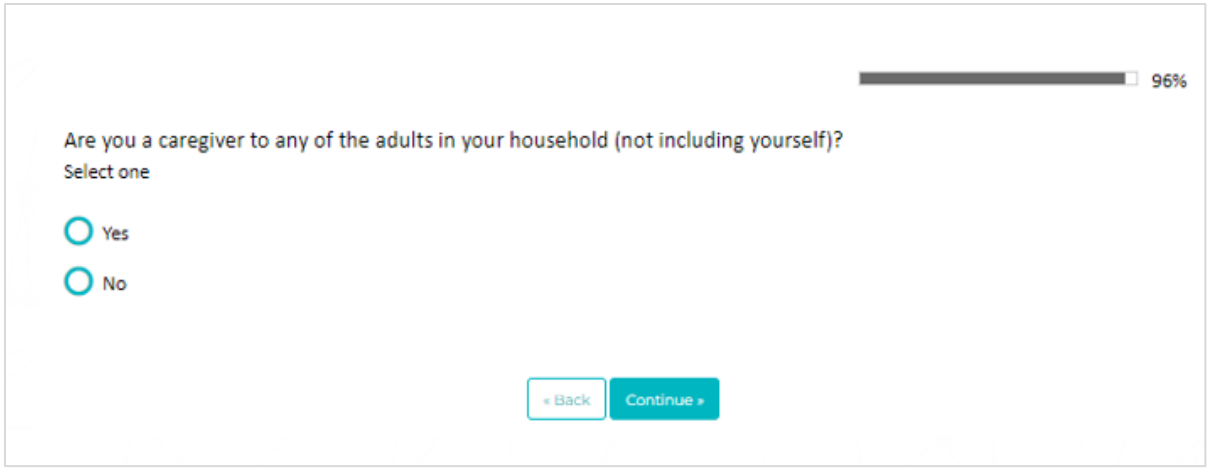
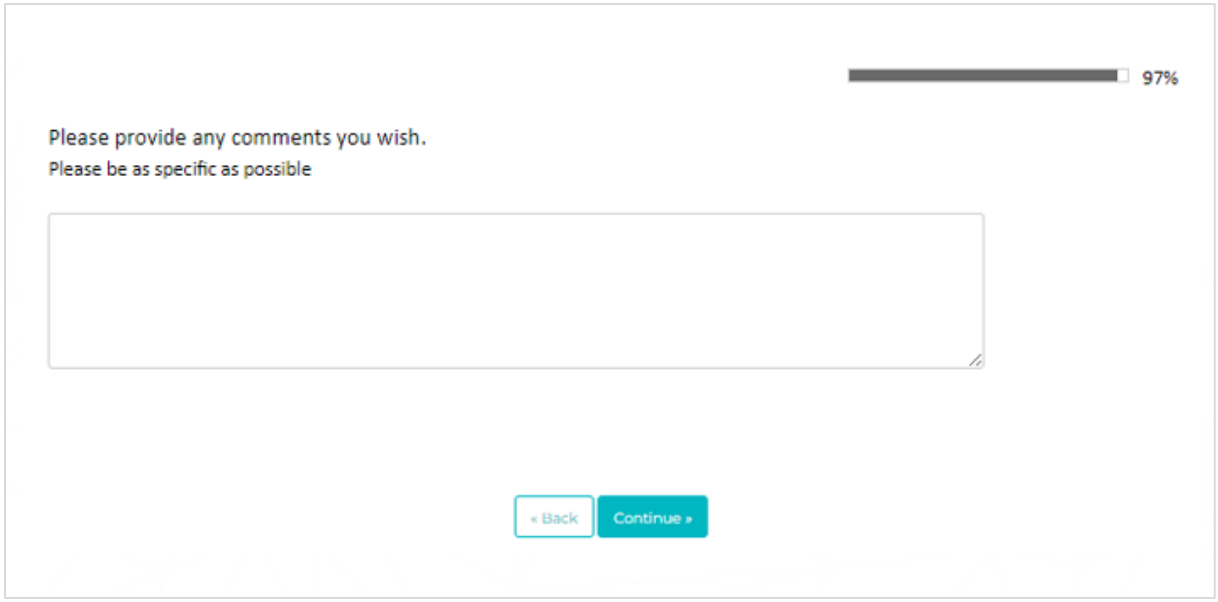
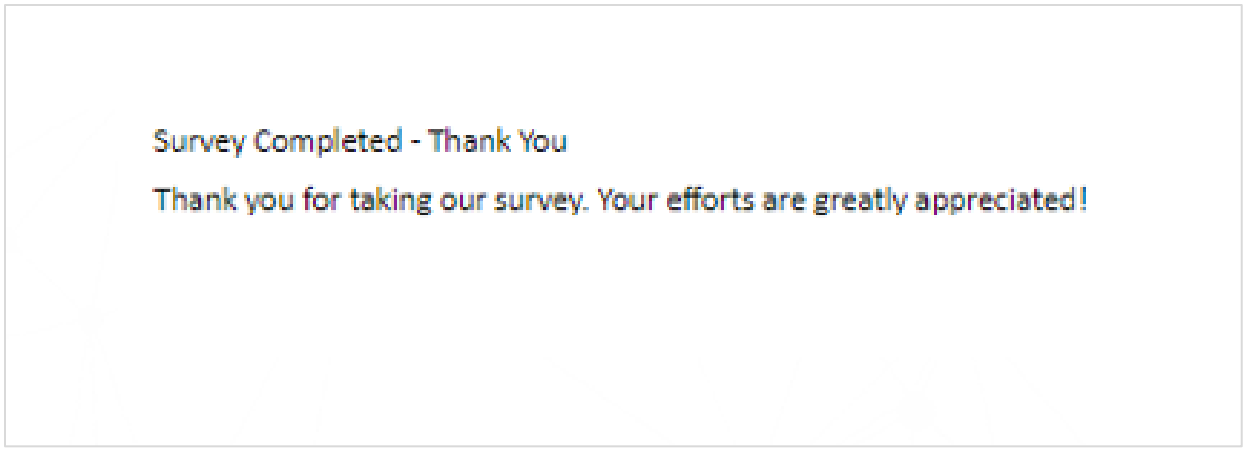

96%
Are you the parent or primary caregiver to any of the children in your household?
Select one
Yes
No
« Back
Continue »


96%
Are you a caregiver to any of the adults in your household (not including yourself)?
Select one
Yes
No
« Back
Continue »


97%
Please provide any comments you wish.
Please be as specific as possible
« Back
Continue »


Survey Completed - Thank You
Thank you for taking our survey. Your efforts are greatly appreciated!

Appendix F – Table of Study Variables

Variable (or Condition)	Variable Derived from Q#:	Values	Variable Value Labels
Label Scheme (Condition)	N/A	1	GDA
		2	Nutrition Info BW no DV
		3	Nutrition Info Magnifying Glass
		4	Nutrition Info Color
		5	Nutrition Info w DV
		6	Nutrition Info w DV Color
		7	High in w DV
		8	High in
Scheme Type (Condition)	N/A	1	GDA
		2	Nutrition Info
		3	High-In
Assigned Twice (Assigned to same scheme in Part 1 and Part 2)	N/A	0	No
		1	Yes
Nutrition Profile (Condition)	N/A	1	Healthiest
		2	Middle healthy
		3	Least healthy
Product Type (Condition)	N/A	1	Cereal
		2	Grain Bowl
		3	Soup
Rurality	S3	0	Other
		1	Rural
Age	S4	1	18-29
		2	30-49
		3	50-64
		4	65 or older
Gender	S5	0	Male
		1	Female
		2	Transgender, non-binary, or another gender
Race Ethnicity	S6	1	Hispanic
		2	Non-Hispanic Black AA
	S7	3	Non-Hispanic White
		4	Non-Hispanic Asian
		5	Non-Hispanic Other
Higher Education	S9	0	No
		1	Yes - Some college plus

Nutrition Knowledge (composite Variable)	S13a	0	Not high nutrition knowledge
	S13b	1	High nutrition knowledge
	S14A		
	S14B		
	S15		
Total Time Spent Part 1 (seconds)	N/A		Continuous Variable
NFL (Whether click on image for NFL)	Q8a	0	No
	Q8b	1	Yes
Easily find nutrition information label	Q9R1	1	Strongly Disagree
		2	Disagree
		3	Slightly disagree
		4	Slightly agree
		5	Agree
		6	Strongly agree
Can easily use label to determine if this food can be part of a healthful dietary pattern	Q9R2	1	Strongly Disagree
		2	Disagree
		3	Slightly disagree
		4	Slightly agree
		5	Agree
		6	Strongly agree
Perceived Healthiness of Food Product	Q9A	1	Not healthy
		2	Slightly unhealthy
		3	Slightly healthy
		4	Moderately healthy
		5	Healthy
		6	Very healthy
Reaction to how the food package is communicating the healthfulness of the food (Believability Index: believability, trustworthy, convincing, credible, reasonable)	Q10R1	1	Not believable/trustworthy/convincing/credible/ reasonable
	Q10R2	2	
	Q10R3	3	
	Q10R4	4	
	Q10R5	5	
		6	Believable/Trustworthy/Convincing/Credible/Reasonable

Reaction to how the food package is communicating the healthfulness of the food (Simple vs. Complex)	Q10R6	1	Simple
		2	
		3	
		4	
		5	
		6	Complex
Can eat this product regularly if limiting sat fat, sodium or added sugars	Q11R1	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree
Can sometimes eat this product if limiting sat fat, sodium, or added sugars	Q11R2	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree
Confidence in using this FOP label to help make decisions about how well the food fits into a healthful diet	Q11A	1	No confidence
		2	
		3	
		4	
		5	Extremely confident
FOP label useful in deciding whether to consume the product	Q11B1	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree
Like the format or layout of FOP label	Q11B2	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree
Easy to use FOP to select healthful foods	Q11B3	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree

Easy to understand the information in FOP label	Q11B4	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree
Easy to use FOP to compare between products	Q11B5	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree
Quickly notice this FOP label	Q11B6	1	Strongly disagree
		2	Disagree
		3	Neither agree nor disagree
		4	Agree
		5	Strongly agree
Attention to Sodium (Paying attention to your intake of salt or sodium)	Q18	0	No
		1	Yes
Attention to Saturated Fat (Paying attention to your intake of saturated fat)	Q19	0	No
		1	Yes
Attention to Sugar (Paying attention to your intake of sugar)	Q20	0	No
		1	Yes

*Question numbers that start with S indicate a question from the screener rather than the questionnaire.