Healthful Food Decision-Making At the Point of Purchase: an Update on Nutrition Labeling

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Numeric nutrition information that is implemented at a constant position on the front of food packages increases visual attention to the labeling during shopping trips. The healthfulness of food choices is unaffected. However, consumers make more healthful choices when traffic light color-coding and health marks are added to the labeling.

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Healthful Food Decision-Making at the Point of Purchase: An Update on Nutrition Labeling

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EXTENDED ABSTRACT

Nutrition labeling aims to help consumers make healthful food decisions. However, consumers often make habitual decisions that are driven by taste when shopping groceries and disregard nutrition information (Grunert et al. 2010). This research investigates whether front-of-pack nutrition labeling, and heuristic cues presented on the labeling, increase attention and the healthfulness of food decisions. We consider actual point of purchase decisions and assess the impact of labeling penetration in the food categories.

Conceptual Framework

We propose that nutrition information, implemented consistently on the front of packages, receives more attention if the labels are present on all packages, compared with the market penetration. Visual search theory substantiates this claim (Duncan and Humphreys 1989); consumers are faster in recognizing objects as present with increasing frequency of appearance and higher similarity in shape and coloring. Consumers are also faster in classifying whether an object is present (vs. classifying it according to its absence; Bialkova and van Trijp 2010; Yamani and McCarley 2010). The full penetration should thus increase the salience of nutrition labeling that is consistently (vs. inconsistently) placed on packages (H1).

The visual scene in the full penetration condition should also allow consumers compare products more easily, without missing information or confusion. Consumers learn about a label’s position on the packages and know where to expect it (Hollingworth 2007; Ollers 2009; Yamani and McCarley 2010). This consistency should facilitate the identification of foods as (un)healthful and thus improve decision quality (H2).

Study 1

Study 1 was conducted in a supermarket and manipulated the front-of-pack nutrition labeling (consistent format at a consistent position vs. real life labeling) and the labeling penetration (implementing the consistent format on all products vs. according to market penetrations). Three hundred and eight products from three categories (sweets, 43% vs. 100% penetration; cereals, 59% vs. 100%; ready meals, 81% vs. 100%) were manipulated. The labels showed calorie, sugar, fat, saturated fat, and salt content. The healthfulness of the product choices was assessed via nutrient-based SSAg/1 scoring (the higher, the less healthful).

Participants (n = 260) were asked to choose three products, one of each category (cover story: orientation in supermarkets). We used mobile eye-tracking to capture visual attention, assessed via share of attention (gaze durations on nutrition labeling / total packaging).

ANOVA revealed that the consistent nutrition label increased share of attention from 1.00% in the inconsistent condition to 4.63% in the market penetration condition, and to 4.12% in the full penetration condition (F(3, 257) = 33.90, p < .001, η² = .21). Hypothesis 1 is only partly supported; the full (vs. market) penetration had no effect on attention change. SSAg/1 scoring did not differ between participants (M = 19.17 vs. M = 19.12 vs. M = 19.07; F(3, 256) = 0.04, p = .96). Hypothesis 2 is rejected.

The nutrition labeling formats may have been ineffective in increasing the healthfulness of choices, because the stimuli did not allow consumers to process the labels within fractions of a second (as quantified by gaze durations). Study 2 assessed how two heuristic cues – health marks and traffic light color-coding – may interact in helping consumers make healthful in-store choices.

Implementing Heuristic Cues

Health marks (binary overall healthfulness classifications) reduce the duration that consumers attend to the packaging (Bialkova and van Trijp 2010). However, we predict that this attention shift is contingent on the presence (vs. absence) of traffic light colors. Adding colors attracts attention to nutrient-specific evaluations (Jones and Richardson 2007). This is expected to inhibit the propensity to use cognitive short cuts offered by health marks (H3). The combination of the two heuristic cues should also make consumers select more healthful products (H4), because health marks guide consumers to a healthful evoked set and the colors automatically activate the meanings ‘go’ (green) and ‘stop’ (red) when assigned to more or less healthful nutrient levels, thereby implying automatic approach-avoidance reactions (Koenigstorfer et al. 2013).

Study 2

A 2 (health marks present vs. absent) × 2 (traffic light colors present vs. absent) between-participant design was applied. Packages of 15 snack foods were manipulated (e.g., rice cakes, SSAg/1 = 0; fried banana chips, SSAg/1 = 18). The procedure was similar to study 1; however, participants (n = 160) additionally selected one snack to take home. Gaze duration and frequency (Rosbergen, Pieters, and Wedel 1997) on the snacks were assessed.

Two-factorial ANOVAs were conducted to test hypothesis 3. The presence (vs. absence) of health marks, the presence (vs. absence) of colors, and their interaction were modeled as independent variables; gaze duration as the dependent variable. The results revealed longer gaze durations when colors were shown (F(1, 148) = 3.97, p < .05, η² = .026); health marks had no effects. However, there was a significant interaction (F(1, 148) = 5.72, p = .02, η² = .037). As postulated in hypothesis 3, health marks decreased gaze duration in the absence of colors (t(73) = 3.48, p < .001) while it was unaffected when colors were present (t(75) = −0.56, p = .58). The interaction was replicated for gaze frequency (same directions, F(1, 148) = 6.26, p = .01, η² = .041).

Both health marks and traffic light colors did not influence the healthfulness of choices. However, as predicted in hypothesis 4, health marks led to more healthful choices when colors were present (F(1, 156) = 4.44, p = .04, η² = .028; from M = 14.54 to M = 12.16; t(76) = 2.11, p = .04). This effect was not observed in the absence of colors (M = 12.67 vs. M = 13.82; t(80) = −0.93, p = .35).

Contributions

Our research shows that consistency in nutrition information increases visual attention (but not healthfulness of choices), and that combining two heuristic cues, traffic light colors and health marks, on the front of food packages helps consumers make healthful food choices.
decisions at the point of purchase. As opposed to back-of-pack labeling (Balasubramanian and Cole 2002), front-of-pack nutrition labels that meet consumer heuristics influence food purchase behavior and may have positive health effects, given that consumption volumes will not increase.

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