

Consumer Perception of the Healthfulness of Ultra-processed Products Featuring Different Front-of-Pack Nutrition Labeling Schemes

Leandro Machín, BSc¹; Manuel Cabrera, BSc¹; María Rosa Curutchet, MSc²;
Joseline Martínez, BSc²; Ana Giménez, BSc^{1,3}; Gastón Ares, PhD^{1,3}

ABSTRACT

Objective: To examine the influence of front-of-pack nutrition information on the perception of healthfulness of ultra-processed products across 2 income levels.

Design: A between-participants design was used to compare healthfulness perception of ultra-processed products featuring different front-of-pack nutrition information schemes (guideline daily amount system, traffic light system, and monochromatic traffic light system).

Participants: A total of 300 people (aged 18–70 years, 75% female) from Montevideo, Uruguay, participated in the study; half were middle- or high-income people and the other half were low-income people.

Main Outcome Measures: Participants were shown the labels of each product and asked to rate their perceived healthfulness and the frequency with which each product should be consumed.

Analysis: Results were analyzed using analysis of variance for statistical significance ($P < .05$).

Results: Low-income participants perceived ultra-processed products to be significantly ($P < .05$) more healthful than did middle- and high-income participants. The lowest perceived healthfulness scores for low-income participants were obtained for products featuring the colored and monochromatic traffic light system whereas no significant differences ($P > .05$) among schemes were found for middle- and high-income participants.

Conclusions and Implications: Nutrition education programs aimed at increasing low-income people's knowledge of the nutritional composition of these products and their potential negative effects on health seem to be necessary. Although the inclusion of semidirective front-of-pack nutrition information decreased the perceived healthfulness of low-income people, it seemed unlikely to influence how they perceive these products.

Key Words: nutrition labeling, income, guideline daily amounts, traffic-light system, consumers, processed foods, front-of-pack (*J Nutr Educ Behav.* 2016; ■:1-9.)

Accepted December 12, 2016.

INTRODUCTION

Dietary patterns are strongly influenced by the environment.¹ In most industrialized countries the food environment is characterized by the large availability and affordability of food that promotes positive energy balance

in their inhabitants.² In particular, the increasing availability and consumption of ultra-processed products has been linked to obesity and other noncommunicable diseases.³⁻⁷

The Pan American Health Organization defined ultra-processed products as “industrial formulations manufac-

tured from substances derived from foods or synthesized from organic sources.”⁸ Ultra-processed products typically include flavorings, colorings, sweeteners, emulsifiers, and other additives in their formulation and contain high sugar, salt, sodium, and low-quality fat content.⁹ These products are often marketed as healthful and include references to naturalness and health/nutrition claims on their packages and in advertising campaigns, which can create a positive healthful image in consumers' minds.⁸ For this reason, the Pan American Health Organization recently claimed the need to develop strategies aimed at reducing consumption of ultra-processed products through regulation of the products' labeling and marketing.^{8,10}

Commercially, the most attractive markets for ultra-processed products

¹Centro de Investigación Básica en Psicología, Facultad de Psicología, Universidad de la República, Montevideo, Uruguay

²Instituto Nacional de Alimentación, Montevideo, Uruguay

³Sensometría y Ciencia del Consumidor, Instituto Polo Tecnológico de Pando, Facultad de Química, Universidad de la República, Canelones, Uruguay

Conflict of Interest Disclosure: The authors' conflict of interest disclosures can be found online with this article on www.jneb.org.

Address for correspondence: Gastón Ares, PhD, Instituto Polo Tecnológico de Pando, Facultad de Química, Universidad de la República, By Pass de Rutas 8 y 101 s/n, Pando, Canelones 91000, Uruguay; Phone: +(59)822922021; E-mail: gares@fq.edu.uy

©2016 Society for Nutrition Education and Behavior. Published by Elsevier, Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.jneb.2016.12.003>

are no longer the fully industrialized high-income countries but developing countries in Asia, Eastern Europe, and Latin America.⁸ In particular, ultra-processed products have become dominant in the food system of Latin American countries and contribute to a significant proportion of daily energy intake.⁷⁻¹⁰ Uruguay has shown the fastest growth rate in sales of ultra-processed products in Latin America: 68.4% between 2000 and 2013.⁸ This situation makes it necessary to study how consumers perceive these products and to evaluate the potential impact of different public policies to reduce their consumption.

According to theories on persuasive design, behavior depends on 3 factors: motivation, ability, and triggers.¹¹ One strategy that can be used to encourage people to reduce their consumption of ultra-processed products is to change their motivation to consume these products by modifying the way in which they perceive them. In this sense, the inclusion of semidirective or directive front-of-pack (FOP) nutrition information, which highlights the high content of nutrients that have been linked with negative health conditions,^{12,13} can increase consumer awareness of the nutritional profile of ultra-processed products and tentatively encourage them to replace these products with healthier options.¹⁴

This FOP nutrition information is easier to find and understand than the conventional nutrition labels used in most countries, including Uruguay.¹⁵⁻¹⁸ Although different formats of FOP nutrition labels have been developed, several studies showed that the traffic light system (TFL) provides the best results under experimental conditions.^{12,19-21} This system uses the traffic light color code to classify the content of key nutrients (sugar, fat, saturated fat, and salt) as high, medium, or low.²²

Income was identified as 1 of the main sociodemographic variables that influence how people select and perceive food.²³ Low-income people frequently describe their food choices as primarily driven by economic factors, and report that nutrition information does not have a relevant role in shaping the food choices of this population.²⁴⁻²⁶ Low-income people have less nutrition knowledge and find it difficult to understand or use nutrition

labels for food selection compared with middle- or high-income people.²⁷⁻²⁹ However, research showed that low-income people would appreciate having simplified or easy to read and understand FOP nutrition information formats such as the TFL.^{24,26,30,31}

In this context, the aim of the current work was to examine the influence of FOP nutrition information on the perception of healthfulness of ultra-processed foods across 2 income levels.

MATERIALS AND METHODS

Participants

A total of 300 people (aged 18–70 years; 75% females) from Montevideo, Uruguay, participated in the study. Half of the participants (150) were middle/high income people who were recruited from a consumer database containing 2,500 profiles maintained by the research group that authored the study. Only participants who had reported a daily income > \$20 US, which corresponds to middle/high income in Uruguay,³² were invited via e-mail to participate in the study. The other half of participants (150) was composed of low-income people and was recruited among beneficiaries of the national food stamp program administered by Instituto Nacional de Alimentación, Uruguay. Beneficiaries of this program should have a daily income < \$3 US, which can be classified as low-income in Uruguay.³² Low-income participants were recruited at the offices of Instituto Nacional de Alimentación while they asked for assistance related to the food stamp program. All participants were in charge of food purchase at their homes at least occasionally. Participants signed an informed consent agreement and received a small gift for participation equivalent to \$5 US. The study was approved by the Ethics Committee of the School of Chemistry of Universidad de la República, Uruguay.

Experimental Design

Front-of-pack nutrition labeling schemes. Three FOP nutrition labeling schemes were considered: guideline daily amounts (GDA),³³ a TFL,²² and a monochromatic TFL (MTFL).³⁴ Text and color interpretational aids were

considered in the TFL and MTFL. High, medium, and low nutrient content were coded with red, yellow, and green in the TFL, whereas different shades of black were used in the MTFL to classify nutrients as high (black), medium (gray), and low (white). The latter system was considered based on the association of black color with the words *fatal* and *poison*.³⁵⁻³⁷ In addition, results from a preliminary study in which 100 participants rated the healthfulness of different colors showed that black was associated with unhealthy more than was red.³⁸

The 3 schemes contained the amount of sugar, total fat, and sodium per portion. In the TFL and MTFL the amount of each nutrient per portion was classified into high, medium, and low following the guidelines provided by the Food Standards Agency.²²

Ultra-processed products. Twelve ultra-processed products were considered in the study: cereal bars, yogurt, instant soup, processed cheese, pan bread, apple juice, soy juice, ham, gelatin, crackers, breakfast cereals, and diet soda. According to their ingredients, all of these products can be classified as ultra-processed following the definition proposed by the Pan American Health Organization.⁸ The selected products were reported to be consumed frequently in the country.^{39,40} The ingredients and nutritional composition of the products were selected based on the characteristics of the products available in the market (Table 1). Except for diet soda, all products had a high content of at least 1 target nutrient (sugar, total fat, and/or sodium).

The products were presented to the study participants using package images. Nutrition information was included on the images using the FOP labeling schemes described in the previous section. The Figure shows examples of the images included in the study, as presented to participants.

Measures

Participants were randomly allocated to 1 of 3 groups, 1 for each FOP nutrition labeling scheme (GDA, TFL, and MTFL). Therefore, each participant evaluated products featuring 1 of the FOP schemes.

Download English Version:

<https://daneshyari.com/en/article/4939389>

Download Persian Version:

<https://daneshyari.com/article/4939389>

[Daneshyari.com](https://daneshyari.com)