

Do Consumers Think Front-of-Package “High in” Warnings are Harsh or Reduce their Control? A Test of Food Industry Concerns

Rachel B. Acton  and David Hammond 

Objective: This study aimed to test the industry claim that “high in” front-of-package (FOP) labeling systems are perceived as harsh and reduce consumers’ control over food choices.

Methods: Respondents aged 16 to 32 years completed a between-group experimental task in an online survey ($n = 1,000$). Participants viewed a beverage with one of four FOP labels (text-only, octagon, triangle, or health star rating) and rated the label on its “harshness” and whether it made them feel more or less “in control” of their healthy eating decisions.

Results: Across all label conditions, at least 88% of respondents indicated the symbols were “about right” or “not harsh enough.” At least 93% felt the symbols made them feel “more in control” or “neither less nor more in control.” Participants viewing the health star rating were more likely to rate the symbol as “not harsh enough” and less likely to state that the symbol made them feel “more in control.”

Conclusions: There was no evidence to support industry claims that consumers perceive “high in” FOP symbols as harsh or as restricting their control. Indeed, most participants reported that the symbols were about the right harshness, and that they increased their control, including “stop sign” FOP symbols similar to those implemented in Chile.

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Introduction

Mandatory front-of-package (FOP) nutrition labels are increasingly being implemented around the world as strategies to promote healthier food choices (1-8). Food manufacturers have strongly opposed mandatory FOP policies, including in Canada, which is finalizing regulations for “high in” FOP warnings, similar to the system implemented in Chile (9,10). The proposed system would feature a symbol that would be required on prepackaged foods that exceed thresholds for sugar, sodium, or saturated fat (11).

Food industry representatives in Canada have lobbied particularly strongly against any FOP symbol that signals consumers to “stop” or “pause” when considering a product, including an octagonal design similar to those mandated in Chile or a caution-like triangle symbol. The President of the Canadian Federation of Agriculture and the Chief Executive Officer of Food and Consumer Products of Canada summarized these concerns in their written submission to Health Canada in response to a public consultation as follows:

...while Health Canada officials seem to have a preference for harsh warning labels – we believe that these represent a poor way to accomplish the intended goals. We believe that the concepts tabled for consultation will cause food shoppers to feel undue, ingredient-specific anxiety rather than feel empowered and in control of healthy eating decisions (12).

The concerns expressed in this letter, particularly around the “harshness” of the proposed labels and the possibility that they may reduce feelings of control over healthy eating decisions, are concerns that have been reiterated by industry representatives throughout Health Canada’s label development process. To our knowledge, there has been little empirical evidence to address these claims. Several population-based surveys in Canada and other countries have demonstrated that the vast majority of consumers support interpretive FOP nutrition labels, and “high in” FOP systems are often consumers’ preferred FOP nutrition label format (Hammond D, Goodman S, Acton RB, unpublished report prepared for Health Canada). However, we are unaware of any studies that have

I School of Public Health and Health Systems, University of Waterloo, Waterloo, Ontario, Canada. Correspondence: David Hammond (dhammond@uwaterloo.ca)

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explicitly tested perceptions of FOP labels' harshness or restriction on control.

The current study sought to empirically test whether proposed FOP "high in" warnings are perceived as harsh or as interfering with feelings of control, and to examine whether "high in" FOP labels are more likely to elicit these responses compared with other FOP designs.

Methods

Data were collected via self-completed Web-based surveys between October and December 2017 as part of Wave 2 of the Canada Food Study. The Canada Food Study is a national cohort survey examining eating patterns and trends among youth and young adults in Canada. Respondents were recruited using in-person intercept sampling in five cities (Edmonton, Alberta; Halifax, Nova Scotia; Montreal, Quebec; Toronto, Ontario; and Vancouver, British Columbia). Eligible respondents were 16 to 30 years of age at recruitment in 2016. Canadian research ethics guidelines do not require parental consent for individuals aged 16 years or older. Respondents provided consent prior to completing the survey and received Can \$20 upon completion. The study was reviewed by and received ethics clearance through the University of Waterloo Research Ethics Committee (ORE# 21631). The experimental tasks discussed in this paper were designed based on methods commonly used in label design research (13,14) and were pilot tested prior to data collection. A full description of the study methods can be found in the Canada Food Study Technical Report (15).

Experimental tasks

As part of the Canada Food Study survey, respondents were randomized to view an image of a generic beverage product featuring one of the following four FOP labels: (1) a text-only "high in sugar" label with no symbol or imagery (control), (2) an octagon "high in sugar" symbol, (3) a triangle "high in sugar" symbol, or (4) a health star rating label (Figure 1). For each condition, the beverage product was displayed with a zoomed image of the label to ensure readability. The octagon and triangle symbols were modeled after early design options proposed by Health Canada for its "high in" FOP system and were the subject of the industry concerns (2,12). The health star rating label was modeled after Australia's and New Zealand's voluntary Health Star Rating program (16). In contrast to Health Canada's proposed "high in" symbols, the Health Star system provides one summary score represented by the number of stars and does not feature any negative or dissuasive imagery. A control condition with no FOP label was not included; the primary intent of the experiment was to compare consumer perceptions across the different labeling designs.

The following description was displayed adjacent to the food product in all cases: "Health Canada is considering new nutrition labels to help consumers. The nutrition label on the top right of this container means that this drink contains a high amount of sugar. Similar labels would appear on food and drinks with high levels of salt or saturated fat."

Consumer perceptions of each FOP label were assessed using two questions. Respondents were asked, "Overall, do you think the nutrition label is...", with response options "Not harsh enough," "About right,"

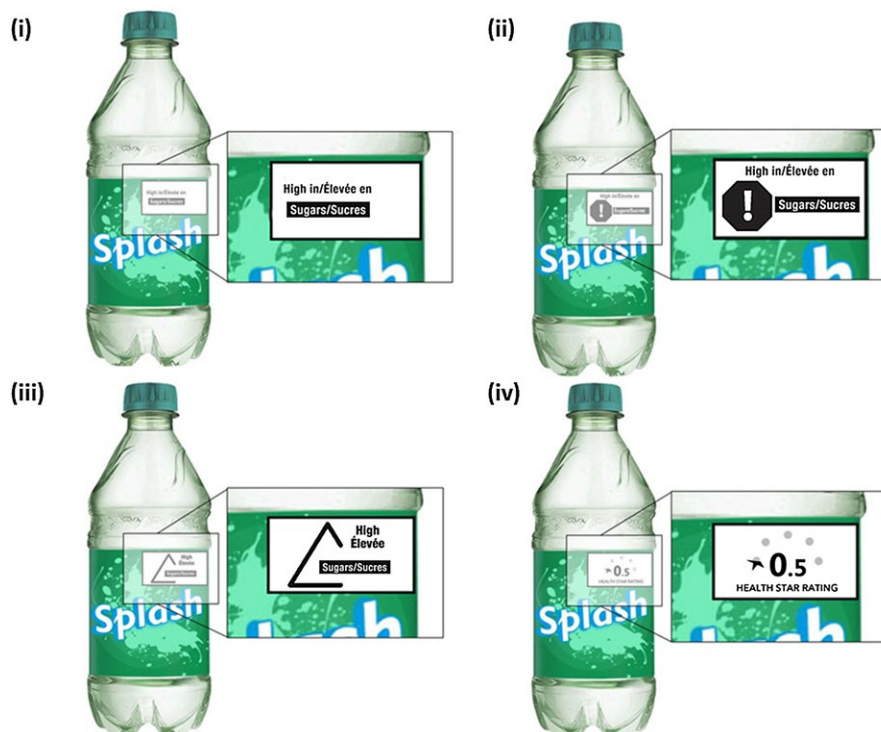


Figure 1 Labeling condition images: (i) text-only "high in" label (control); (ii) octagon "high in" label; (iii) triangle "high in" label; (iv) health star rating label.

“Too harsh,” “Don’t know,” or “Refuse to answer.” Respondents were then asked, “Overall, would the nutrition label make you feel...”, with response options “LESS IN CONTROL of making healthy eating decisions,” “NEITHER less nor more in control,” “MORE IN CONTROL of making healthy eating decisions,” “Don’t know,” or “Refuse to answer.”

Analysis

A total of 1,000 respondents were included in the current analysis after excluding participants with missing data. Respondents who selected “Don’t know” or “Refuse to answer” were coded as missing.

χ^2 tests were used to test for sociodemographic differences between experimental conditions. Separate multinomial logistic regression models were used to estimate the effect of the labeling condition on respondents’ perceptions of harshness and control. For both outcomes, the neutral response option (i.e., “About right” or “NEITHER less nor more in control”) was treated as the reference category. “Don’t know” and “Refuse to answer” responses were coded as missing. Analyses were conducted using SPSS Statistics software (version 24.0; IBM Corp., Armonk, New York). The significance threshold was set at 0.05 for all tests.

Results

Sample characteristics can be found in Table 1. There were no significant differences in sociodemographic measures across the experimental conditions. Respondents excluded from the analysis because of missing data ($n=73$) included a greater proportion of “not stated/missing” BMI. Age, sex, and race/ethnicity were statistically similar between included and excluded respondents.

Perceptions of harshness

Figure 2i shows the percentage of respondents who selected “Not harsh enough,” “About right,” and “Too harsh” across each of the four labeling conditions. Respondents who viewed the health star rating label were significantly more likely to state that the label was not harsh enough rather than about right compared with those who viewed the text-only label (OR 1.79; 95% CI: 1.16-2.76; $P=0.008$), the octagon symbol (OR 2.59; 95% CI: 1.63-4.13; $P<0.0001$), and the triangle symbol (OR 2.07; 95% CI: 1.31-3.27; $P=0.002$). Those who viewed the health star rating label were also significantly more likely to state that the label was too harsh rather than about right compared with respondents who viewed the control label with no symbol (OR 3.04; 95% CI: 1.49-6.21; $P=0.002$), as were respondents who viewed the octagon symbol (OR 2.10; 95% CI: 1.03-4.28; $P=0.042$).

Perceptions of control

Figure 2ii shows the percentage of respondents who selected “LESS IN CONTROL of making healthy eating decisions,” “NEITHER less nor more in control,” and “MORE IN CONTROL of making healthy eating decisions” across each of the four labeling conditions. There were no significant differences in the likelihood of selecting “LESS IN CONTROL” rather than “NEITHER” between any of the labeling conditions ($P > 0.05$ for all). Respondents who viewed the health star rating label were significantly less likely to indicate that the label made them feel more in control rather than neither less nor more in control compared with respondents who viewed the text-only label (OR 0.60;

TABLE 1 Characteristics of the sample of Canadian young adults aged 16 to 32 years participating in online survey, 2016 ($n=1,000$)

	%	<i>n</i>
Age		
16 to 18	12.8	128
19 to 21	33.0	330
22 to 25	29.8	298
26 to 32	24.4	244
Sex at birth		
Male	30.3	303
Female	69.7	697
BMI category		
Underweight	6.1	61
Normal weight	60.8	608
Overweight	16.2	162
Obesity	7.2	72
Not stated/missing	9.7	97
Race/ethnicity		
White only	47.5	475
Chinese only	10.4	104
South Asian only	7.3	73
Black only	5.2	52
Aboriginal inclusive	3.7	37
Mixed/other/not stated/missing	25.9	259

95% CI: 0.41-0.88; $P=0.009$), the octagon symbol (OR 0.60; 95% CI: 0.41-0.88; $P=0.009$), and the triangle symbol (OR 0.60; 95% CI: 0.41-0.89; $P=0.011$).

Discussion

The findings did not support recent industry claims that “high in” symbols are perceived negatively by consumers. Very few respondents (5%-10%) indicated that any of the “high in” FOP warnings were too harsh; rather, the vast majority of respondents indicated that all labels were either about right or not harsh enough. Furthermore, in direct contrast to industry concerns, the majority of respondents in this study across all label conditions indicated that the labels made them feel more in control of their healthy eating decisions. Very few respondents (2%-7%) thought that the labels would make them feel less in control. The current findings are similar to consumer perceptions assessed in Chile after the implementation of “high in” FOP labels in the form of stop signs; the vast majority (92%) rated the labeling policy as “good” or “very good” (17).

Interestingly, the health star rating label tested in this experiment garnered the most variation in responses for both harshness and control. Compared with all other labeling conditions, respondents who were randomized to view the health star rating were more likely to state that the label was not harsh enough and less likely to indicate that the label would make them feel more in control of their healthy eating decisions. These differences in perceptions of the health star rating may reflect its unique format and message compared with the other “high in” warning

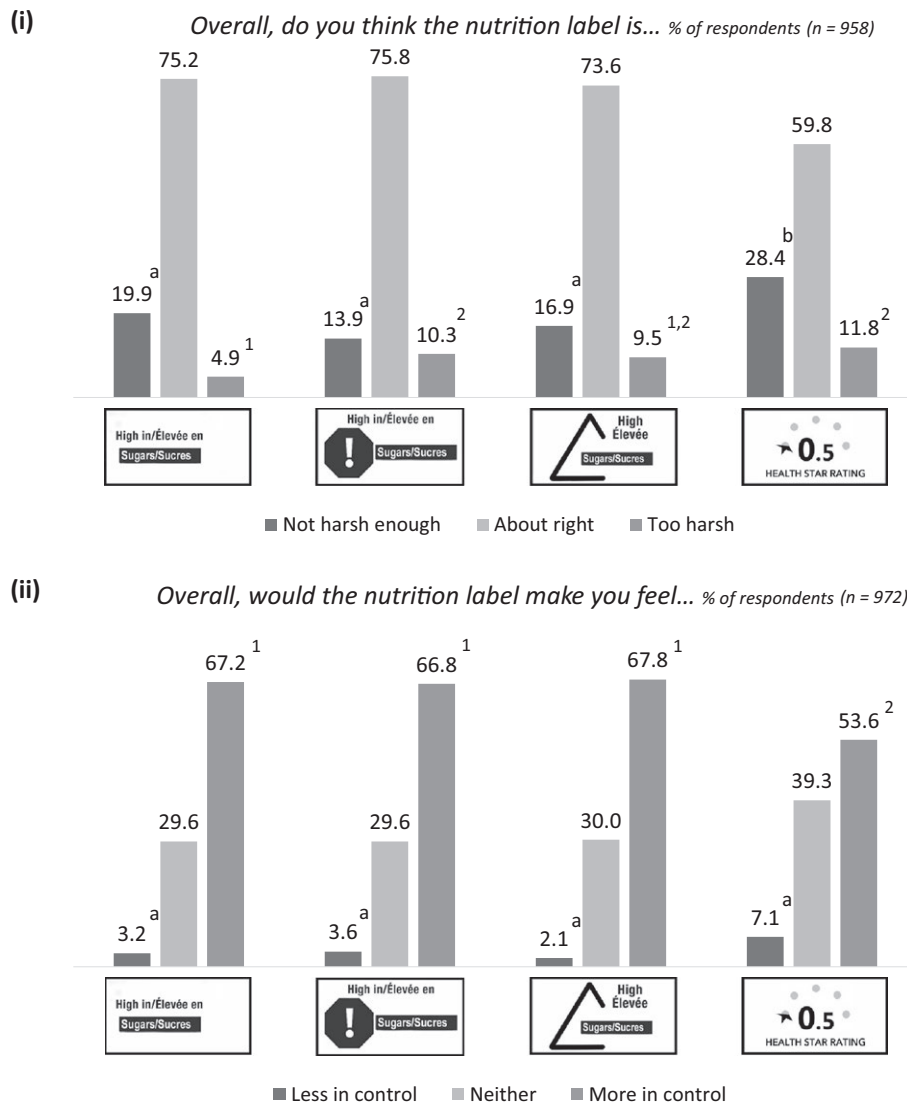


Figure 2 Responses for perceived (i) “harshness” and (ii) “control over healthy eating decisions.” Different letters indicate significant differences across conditions for (i) “not harsh enough” versus “about right” and (ii) “less in control” versus “neither.” Different numbers indicate significant differences across conditions for (i) “too harsh” versus “about right” and (ii) “more in control” versus “neither.”

labels tested. Overall, however, the health star rating did not show differences with respect to the most and least popular responses.

Limitations of this study include limited generalizability to older age groups or those living in more rural areas. The Canada Food Study sample is nonrepresentative; however, the randomized nature of the experiment resulted in comparable sociodemographic characteristics across labeling conditions.

Conclusion

Findings from the current study directly contradict industry claims that consumers will perceive FOP “high in” nutrient labels as harsh

or that they will reduce their feelings of control over healthy eating decisions.

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