The Pitfall of Nutrition Facts Label Fluency: Easier-to-process Nutrition Information Enhances Purchase Intentions for Unhealthy food Products

Pierrick Gomez

NEOMA Business School, France

Carolina O.C. Werle

Grenoble Ecole de Management, France

Olivier Corneille

Université Catholique de Louvain, Belgium

- Correspondence may be addressed to Pierrick Gomez, NEOMA Business School. E-mail: pierrick.gomez@neoma-bs.fr .Tel: + 33 684 37 31 10. This research was supported by a grant of the Walloon Region (FOOD4GUT, project # 1318148).

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This research examines the metacognitive effects of nutrition facts label clarity on food preferences. Two experiments show that, holding information content and comprehensibility constant, providing consumers with easier-to-process nutrition information increases purchase intentions for food products. The effect occurs for healthy (Study 1) but also, and more ironically so, for unhealthy (Study 1 & 2) food products. In addition, the latter fluency effect is found to be stronger among people scoring low in nutrition knowledge (Study 2). These findings emphasize the consequences of delivering easily readable nutrition information to consumers. They also point to a potential pitfall of health prevention policies based on the simplification of nutrition labeling.

Key words: nutrition labeling, metacognition, disfluency, food preferences

Consumers can hardly avoid nutrition labeling in the marketplace and are clearly encouraged to process nutrition information before making food decisions. Public health agencies invest great effort to fight obesity and nutrition labeling has become an indispensable instrument in promoting healthy eating behavior (OECD, 2008). As a matter of fact, since 1990, nutrition labeling is mandatory for all pre-packaged foods in the USA and a new EU regulation will make nutrition labeling obligatory as of December 2016 (EUFIC, 2013). Nutrition information is now displayed on most food packages in developed countries (Storcksdieck genannt Bonsmann et al., 2010). Although food retailers and manufacturers have developed alternative nutrition labeling systems in which nutrition information is presented in a simple way to consumers (e.g., front-of-pack nutrition labeling) (Newman, Howlett, & Burton, 2014), nutrition facts panel is the only source of nutrition information about food products that is recognized by public health organizations.

Somewhat surprisingly, responses to nutrition information have been generally investigated from a cognitive perspective (Hieke & Taylor, 2012). A large body of research (Grunert & Wills, 2007) documented that nutrition information processing is a complex, cognitively taxing, task (Storcksdieck genannt Bonsmann & Wills, 2012) and considerable efforts have been made to examine nutrition information comprehension and liking (Feunekes, Gortemaker, Willems, Lion, & Van Den Kommer, 2008; Grunert, Fernández-Celemín, Wills, Storcksdieck genannt Bonsmann, & Nureeva, 2010).

In comparison, much less attention has been paid to the role of consumers' *metacognition* (i.e., consumers' thought and feelings about their own cognitive activities) in food choice and preferences. In the present research, we examined the influence of ease of processing (a typical metacognitive factor) of nutrition information in purchase intentions about food products. We hypothesized that, keeping nutrition information and comprehensibility constant, enhancing its processing fluency would increase purchase intentions for food products.

The rationale for our prediction comes from prior metacognitive work showing that people are not only influenced by informational content but also by subjective processing experiences when forming a judgment (Schwarz, 2004). Previous work has shown that metacognitive processes may outweigh informational content in guiding people's decisions (Alter & Oppenheimer, 2009). For instance, people are paradoxically less convinced after generating a larger than a fewer number of arguments supporting a stance. This is because they rely on their experienced difficulty of generating several arguments when assessing their attitude towards this stance (e.g., "If I were supportive of this stance, arguments should have come more easily to my mind") (Haddock, Rothman, Reber, & Schwarz, 1999).

Metacognitive effects have also been demonstrated in food preferences and choice. For instance, consumers have more favorable attitudes towards ketchup when they are exposed before to an ad featuring mayonnaise because it makes the processing experience of the first item more fluent (Labroo, Dhar, & Schwarz, 2008). Likewise, repeated exposure to a slogan linking fruits and vegetables to a common object of the environment (i.e. dining hall trays) increases consumption of these items by 25% (Berger & Fitzsimons, 2008). In the same vein, during a Chinese New Year buffet Hong Kong Chinese students were found to serve themselves more food on red-rimmed plates (i.e., culturally fluent condition) than in the black-rimmed plates control condition (Mourey, Lam, & Oyserman, 2015).

We reasoned that a similar process could be involved when consumers process nutrition information. Experiencing facility in processing nutrition information may positively influence consumers' appraisal of food products, resulting in higher purchase intentions. Fluent processing experiences generate positive affect, which, in turn, results in enhanced liking. For instance, websites with perceptually fluent objects are perceived as more aesthetics and make the online experience more pleasurable (Im, Lennon, & Stoel, 2010). Conversely, neuroscientific evidence suggests that cognitive effort inhibits a brain region (i.e., the nucleus accumbens) responsible for responding to reward outcome and more generally involved in motivated behavior (Salamone, Correa, Mingote, & Weber, 2003). Notably, this brain area is involved in pleasure and affective reactions to sweet tastes (Berridge, 2003). Food products associated with an enhanced perception of effort may thus be more negatively evaluated and be less likely to induce approach tendencies. Because perception of disfluency is often accompanied by an increase in cognitive effort exerted (Alter & Oppenheimer, 2009), we may expect disfluent nutrition information to reduce purchase intention.

Studies overview

Two studies manipulated the processing fluency of nutritional information. In Study 1, processing fluency was manipulated through font readability. In Study 2, processing fluency was manipulated through the familiarity of the nutritional labeling format (EU vs. US standard) and we proceeded to a more realistic manipulation of font readability. In the two studies, we hypothesized higher purchase intentions for the food product associated with more fluent nutritional labels. Study 2 additionally explored the moderating role of subjective nutrition-related knowledge. We reasoned that consumers scoring higher in nutrition-related knowledge might show a weaker fluency effect, as highly knowledgeable participants are less likely to engage in fluency-based heuristic thinking (Wood & Kallgren, 1988).

Study 1

Method

We manipulated fluency by presenting participants with nutrition information in an easy-to read or a difficult-to-read font (Alter & Oppenheimer, 2009). This manipulation has two advantages: (1) it has been widely used in past research to create fluency effects while keeping information content constant (Novemsky, Dhar, Schwarz, & Simonson, 2007) and (2) it allows us to run a realistic study because nutrition labeling is often printed in small font types in the back of food packaging (Jacobson, 2013). The new EU regulation requires nutrition labeling to use font size ranging from 0,9 to 1.2 mm (EU, 2011). Hence, it is reasonable to assume that consumers may experience subjective difficulties when reading this information. In this experiment, the size of nutrition information provided to participants conformed EU regulatory requirements.

Protocol description

We recruited 335 participants from an online consumer panel (60% male; M_{age} = 43.9, *SD* = 9.78; body mass index = 25.03, *SD* = 4.33). One participant was excluded for having failed to an attention check, leaving a final sample of 334 participants. We took advantage of this study to explore whether the predicted effects of processing fluency would differ between healthy and unhealthy foods. Participants were invited to participate in an online product test and were randomly assigned to a 2 (Labeling type: Easy-to-read vs. Difficult-to-read) x 2 (Food type: Healthy vs. Unhealthy) between subjects design.

Following demographic measures (i.e., age and gender), processing fluency was manipulated by modifying the color and the size of the font of nutrition information provided to participants. In the easy-to-read condition, the nutrition fact panel of the (vice or virtue) food product was presented in black Calibri 12 font. In the difficult-to-read condition, the nutrition fact panel was presented in grey Calibri 7 font (Alter & Oppenheimer, 2008) (see Appendix A).

We used healthy and unhealthy options employed by previous research (Kivetz & Zheng, 2006): in the healthy food condition, the food item was a pre-packed fresh fruits mix, whereas in the unhealthy food condition it was a chocolate cake. In all conditions, participants were invited to read the food information carefully. Participants were provided with a brief neutral description of the product (i.e., “a pre-packed fresh fruits mix” and “a tender and creamy chocolate cake”) and received general information about the preservation mode, the product’s location in stores, the list of ingredients, and how the product should be consumed. Nutrition information and general product information were presented separately to avoid information overload.

Upon reading of the nutrition information, participants were invited to complete the manipulation checks (perceived fluency and healthiness) and to complete dependent variable measures. In order to address possible interferences between the measurement of the manipulation check and the measurement of the other variables, the measurement of perceived fluency followed the measurement of the dependent variables.

Measures

As a measure of food healthiness, participants rated the perceived likelihood of gaining weight and having heart diseases as a consequence of frequent product consumption (1 = not at all, 7 = very much; $r = .70$, $p < .001$) (Burton, Creyer, Kees, & Huggins, 2006). Subsequently, they were asked to report their predicted food enjoyment on three 7-point Likert scales (“This product is tasty,” “Eating this product will give me pleasure,” and “I will enjoy eating this product”; $\alpha = .93$) and their product purchase intention on a 7-point Likert scale (“I will purchase this product”). In order to examine an alternative explanation, earning the right to indulge through effort (Kivetz & Simonson, 2002), participants were also asked to rate the guilt they would feel if they consume the product on a 7-point Likert scale (1= not at all, 7= extremely).

To examine nutrition information comprehension (and to control that evaluative differences were not due to misperception of product nutritional properties), participants evaluated the amount of calories and nutrients contained in the food item on a 7-point Likert scale (1 = low, 7 = high). We computed an objective comprehension index by averaging the responses of the items concerning perceived calories, fat and carbohydrates, with a higher score meaning that the product is unhealthy. Respondents were asked to rate difficulty (1 = easy, 7 = difficult) and the degree of cognitive effort exerted when processing nutrition information (1 = low, 7 = high). Once the effort item has been inverted, these two items were averaged into a single score of processing fluency ($r = .67$, $p < .001$). As a complementary measure, participants were asked to rate their sense of understanding of nutrition information with a single-item scale (1 = poor understanding, 7 = good understanding). Finally, measures of self-reported height and weight were collected in order to compute participants' body mass index.

Results

Manipulation checks

As expected, processing nutrition information was perceived as less disfluent in the easy-to-read ($M = 5.12$) than in the difficult-to-read font condition, ($M = 4.02$; $F(1, 332) = 45.94$, $p < .001$). Also, the chocolate cake ($M = 4.70$) was perceived to be more risky for health than the fruits salad ($M = 3.07$; $F(1, 332) = 114.04$, $p < .001$). The font readability did not affect the comprehension of the nutrition information ($F(1, 332) = .23$, $p = .63$): the products were perceived as equally healthy in the difficult-to-read ($M = 3.90$) and easy-to-read ($M = 3.97$) conditions. However, felt understanding was lower in the difficult-to-read font condition ($M = 4.47$) than in the easy-to-read font condition, ($M = 5.01$; $F(1, 332) = 9.82$, $p < .01$).

Purchase intention

We conducted an ANOVA with purchase intention as the dependent variable and labeling type and food type as independent variables, controlling for BMI. As predicted, there was a main effect of labeling type on purchase intention: participants reported higher purchase intention in the easy-to-read (M = 4.97) than in the difficult-to-read (M = 4.54) condition (F(1, 326)[1] = 6.62, p < .05). Food type also influenced purchase intention (F(1, 326) = 5.42, p < .05). Purchase intention was higher for the healthy option (M = 4.95) than for the unhealthy option (M = 4.56). There was no significant effect of the covariate (F(1, 326) = .20, p = .66)[2]. Although no specific hypothesis was made, a second ANCOVA was performed to see if the effect varied depending on product actual healthiness. Product healthiness was added in the model. The interaction between labeling type and food healthiness was not significant (F(1, 325) = .34, p = .56) (see Fig.1).

Food enjoyment and anticipated guilt

Next, we examined effects on anticipated enjoyment. We included anticipated enjoyment as the dependent variable and food type and labeling type as independent variables while controlling for BMI. The same pattern of results emerged. Participants reported higher anticipated enjoyment in the easy-to-read (M = 5.11) than in the hard-to-read condition (M = 4.83, F(1, 325) = 3.48, p < .06).

In order to examine whether guilt played a role in the process (i.e., earning the right to indulge through effort), we performed the same ANCOVA analysis on anticipated guilt. No significant effect of labeling type was obtained (F(1, 325) = .00, p = .96). A main effect of food type was obtained: participants reported higher anticipated guilt in the unhealthy food condition (M = 3.41) than in the healthy food condition (M = 2.53; F(1, 325) = 21.96, p < .001). No other effect came out significant.

Discussion

[1] Four participants refused to provide their height and weight and were excluded from the analysis.
[2] A similar analysis conducted without BMI as a covariate also yielded a significant main effect of font readability (F(1,330) = 7.06, p < .01) as well as food type (F(1,330) = 5.20, p < .05).

Study 1 supports our prediction of higher purchase intentions for food products associated with a more fluent nutrition fact label. Of interest, we also found that more fluent labels resulted in more anticipated pleasure about the food consumption. Finally, additional measures showed that nutritional information comprehensibility was similar in the low and high fluency conditions, and we found no evidence that the effects were related to anticipated guilt. Hence, effects are unlikely to be driven by cognitive effects (i.e., lack of understanding of the information in the disfluent condition) or by motivational effects (i.e., indulgence following efforts in the disfluent condition).

Study 1 suggests that food products involving easier-to-process nutritional information are more appetent and may be better sold. Ironically enough, this effect may result in public policy pitfalls when it comes to simplifying nutrition fact labels for unhealthy food items. Study 1, however, relied on a rather strong manipulation of fluency. As a result, effects may have been caused by content-related inferences about the food products (e.g., bad food is badly packed). Although we are not aware of empirical evidence supporting the latter type of inference (consumers may actually expect companies to devote greater packaging efforts in selling low-quality products), we deemed it important to examine whether effects found in Study 1 would replicate and generalize using a more subtle fluency manipulation. Study 2 additionally explored the role of subjective nutrition knowledge in the effect. Finding a smaller fluency effect among consumers who are less prone to heuristic thinking (i.e., high-knowledge consumers) would reveal a boundary condition for the effect to operate. The latter moderating effect would also be consistent with the fluency analysis proposed here.

Study 2

Method

The experiment was a one-factor two-levels research design (Labeling type: Easy-to read vs. Difficult-to-read). Study 2 only involved an unhealthy food product: M&M's. For generalization purpose, this food product was different to, and more familiar than, the unhealthy food product used in Study 1.

Design

We recruited 250 participants from an online consumer panel. (98% Male; M_{age} = 38.3, *SD* = 12.57; body mass index = 24.97, *SD* = 4.33). No gender differences were expected[3]. As in Study 1, participants were invited to participate in an online product testing and randomly assigned to the hard-to-read or easy-to-read nutrition labeling conditions.

Protocol description

After answering demographic questions (i.e., age and gender), participants were presented with a brief textual description of the product (Peanut M&M's individual bag). Then, nutrition labels were displayed to participants. Because we used a EU sample, we thought it would make sense to use a EU nutrition facts display (i.e., familiar) in the easy-to-read condition, and a US nutrition facts display (i.e., unfamiliar) in the difficult-to-read condition.

In the difficult-to-read nutrition labeling, information was displayed on three separated columns so that participants had to make visual effort to process each piece of information. This manipulation is quite realistic because package shapes often require displaying nutrition information horizontally (such as M&M's individual bags) and it was adapted from the nutritional facts label available for Peanut M&M's in the USA. In the difficult-to-read condition, we also used different size of bold and non-bold font as in the nutrition facts panel ruled by the NLEA. Finally, we also blurred the difficult-to-read

[3] The interaction between gender and font readability was no significant in Study 1 (p = .52).

nutrition labeling, which remained clarified in the easy-to-read condition to complete our manipulation (Shah & Oppenheimer, 2007)(see Appendix B). In the easy-to-read condition, nutrition facts information was displayed in one single column and was adapted from the nutritional facts labels available in the bags of Peanut M&M's sold in Europe (see Appendix B).

After processing the nutrition information, participants reported their purchase intention on a two-item scale ("I could purchase this product", "I would like to have this product"). The two items measuring purchase intention were averaged to form a purchase intention score (r = .88, p<.001). Food enjoyment was measured with the three-item scale already used in Study 1 (α = .94). To assess nutrition information comprehension, we used the same scale as in Study 1. We also calculated an objective comprehension index by averaging the scores of perceived calories, fat and carbohydrates content items, with a higher score meaning that the product contained high levels of these nutrients.

Processing fluency was assessed with two questions. Participants were asked to assess perceived difficulty (1= easy, 7= difficult) and the degree of cognitive effort exerted (1 = low, 7 = high) when processing nutrition information. These two items were inverted and averaged to form a single score of processing fluency (r=.60, p<.001). Subjective nutrition knowledge was assessed with the following one-item measure: "compared to others, how would you evaluate your personal knowledge about nutrition? (1 = much less, 7 = much more) (Andrews, Netemeyer, & Burton, 2009). Finally, measures of self-reported height and weight were collected in order to compute participants' BMI.

Results

Manipulation checks.

The easy-to-read nutrition labeling was perceived as more fluent (*M* = 4.95) than the hard-to-read nutrition labeling (*M* = 4.57; F(1, 248) = 4.53, *p* = .03) confirming that our manipulation worked as intended.

The fluency manipulation did not influence the perceived nutritional content of the product. There was no significant effect of our labeling manipulation on comprehension index ($M_{hard-to-read}$ = 5.07, $M_{easy-to-read}$ = 4.94; *F*(1, 248) = .91, *p* = .34). Thus, our effects could not be attributed to differences in nutrition information comprehension.

Purchase intention.

We predicted a lower purchase intention in the hard-to-read condition (vs. easy-to-read condition). An ANOVA was performed to test our main prediction with purchase intention as a dependent variable and labeling type as an independent variable, controlling for BMI. Participants reported higher intention when exposed to the easy-to-read nutrition labeling (*M* = 5.11) than when exposed to the hard-to-read nutrition labeling (*M* = 4.70; F(1, 245[4]) = 3.76, *p* = .05). This pattern of results replicates findings observed in Study 1, this time with a more realistic manipulation. There was no significant effect of BMI on purchase intention (F(1, 245) = .13, *p* = .72)[5].

Anticipated enjoyment. The same method was used to test the effect of labeling type on anticipated enjoyment. Again, we controlled for BMI. There was no significant difference between the two labeling type conditions (F(1, 245) = .31, *p* = .58). Food enjoyment means were not statistically different in the easy-to-read (*M* = 5.50) and the hard-to-read condition (*M* = 5.41). We found no effect of BMI on anticipated enjoyment (F(1, 245) = .33, *p* = .57).

[4] Two participants refused to provide their height and weight and were excluded from the analysis.
[5] The results remained significant when BMI was removed from the model, F(1, 248) = 3.79, *p* = .05.

Moderation of nutrition knowledge.

A spotlight analysis was used to test the interaction between nutrition labeling and subjective nutrition knowledge. The analysis was conducted at one standard deviation below the average level of nutrition knowledge (M = 2.29) and at one standard deviation above the average level of nutrition knowledge (M = 3.92). The analysis revealed that the interaction term was significant (β = -.58, t = -2.28, p = .02). Consistent with our hypothesis, we found that nutrition labeling readability did not affect purchase likelihood among participants with high nutrition knowledge (β = -.07, t = -.23, p = .82). However, the effect of labeling type was significant among participants with low nutrition knowledge (β = .88, t = 2.99, p < .01), with increased purchase intentions in the easy-to-read nutrition labeling condition for participants scoring low in nutrition knowledge (See Fig. 2).

Discussion

Study 2 shows that facilitating the processing of nutrition information results in increased purchase intentions for a food product. This fluency effect was this time obtained in the context of a more realistic induction of fluency and for a very familiar unhealthy food item: Peanut M&Ms. Beyond this replication and generalization of Study 1 findings, Study 2 reveals that the current effects are more likely to be observed in consumers scoring low than high in subjective nutrition knowledge. This boundary condition is consistent with the metacognitive perspective proposed here: because expertise reduces reliance on heuristic thinking, it weakens the influence of heuristic-based fluency effects on purchase intentions. Contrary to Study 1, no significant effect was this time observed on anticipated enjoyment. We can only speculate about this absence of replication. One possibility is that, turning to a highly familiar food product (Peanut M&M's), participants held stronger representations about how pleasurable it would be to consume it, thereby reducing the influence of fluency effects on this variable.

General discussion

This research examined whether the fluency of nutrition information influences purchase intention for food products. In doing so, we took a different perspective from previous research by considering the effects of nutrition information processing experiences *per se* on consumers' purchase intentions. In other words, we turned to metacognitive effects whereas the previous literature on nutrition labels essentially considered cognitive or motivational effects (Chernev & Chandon, 2010).

The two studies reported here indicate that metacognitive cues derived from nutrition information processing play a significant role, over and above that induced by information content. Keeping constant nutritional content and its comprehension, fluent information resulted in higher purchase intentions. The latter fluency effect is supported by the absence of difference in nutrition-related representations in the low and high fluency conditions (Study 1 & 2), the absence of difference in anticipated guilt between the two conditions (Study 1), and a moderation of the fluency effect by nutrition knowledge (Study 2).

That easier-to-process nutrition information enhanced the anticipated pleasure for a relatively unfamiliar unhealthy food item (Study 1) and increased purchase intentions for both unfamiliar (Study 1) and familiar (Study 2) unhealthy food items points to a potential pitfall in health prevention policies based on the simplification of nutrition labels. Among relatively uninformed consumers (low nutritional knowledge), simplified labels may ironically increase the appetence of unhealthy food and increase the probability of buying it. Obviously, nutrition information should always allow consumers to come up with an accurate representation of food contents. Yet, going too far in simplifying the processing of this information may potentially fight back. Similar boomerang effects in health promotion policies have been reported in the recent consumer literature. For instance, individuals exposed to an unhealthy food advertisement including a sanitary message promoting the consumption of fruit and vegetables were more prone to make an unhealthy food choice later than those that were not exposed to the preventive message (Werle & Cuny, 2012). These findings and the results of our studies suggest that public policy measures that aim to simplify nutritional information should be tested in a controlled manner before their implementation, to avoid potential undesirable effects.

Positive effects of disfluent processing have also been reported in the past metacognitive literature. For instance, Diemand-Yauman, Oppenheimer and Vaughan (2011) showed in experimental and classroom contexts that deeper processing resulting from disfluency (using a font readability manipulation) improves memory performance and educational outcomes. Similarly, Alter, Oppenheimer, Epley and Eire (2007)provided evidence in 4 studies that disfluency induction (using in some studies font or lettering manipulations) promotes analytic reasoning and prevents negative outcomes associated with intuitive reasoning. Finally, Hernandez and Preston (2013), again using a readability manipulation, obtained reduced confirmation biases in disfluent than fluent conditions.

In the present two studies, we manipulated disfluency by making nutrition labeling difficult to read, a widely used technique when it comes to creating disfluency experiences while keeping information content constant (Novemsky et al., 2007). However, we could have used other techniques. For instance, past research has used number roundness (Coulter & Roggeveen, 2014), visual complexity (Orth & Crouch, 2014) or name pronunciation (Alter & Oppenheimer, 2006) to generate disfluent processing experiences. Each of these techniques is interesting regarding the current nutrition labeling problematic and would deserve to be examined in future research. As an important note of caution, however, one should stress that the current effects were obtained in a context where participants were explicitly invited to process nutrition information. It may not generalize to situations where participants are engaged in more hedonic goals and are probably less likely to spontaneously process nutrition information.

The present findings have implications for public policy makers. They show that subjective experiences of information processing influence consumers over and above information content. Subjective experience of difficulty is associated with negative feelings that decrease product preference. A food item displaying nutrition information that is easy to read will be preferred over a food item displaying nutrition information that is difficult to read. That some food manufacturers and retailers develop their own easy-to-use nutrition labeling should be considered with attention, because this strategy may favor their products over products with standard nutrition labeling.

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Appendix A

Easy-to-read and difficult-to-read nutrition labels (in French)

Les informations nutritionnelles de ce produit vous sont également données. ***Veuillez les lire avec attention.***

	Pour 100 g	RNJ* pour 100 g
Calories (en kcal)	49	2%
Protéines (en g)	0.6	1%
Glucides (en g)	10.5	4%
Lipides (en g)	0.1	0%

*RNJ=Repères Nutritionnels Journaliers

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	Pour 100 g	RNJ* pour 100 g
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*RNJ=Repères Nutritionnels Journaliers

Appendix B

Easy-to-read and difficult-to-read nutrition labels (in French)

Information Nutritionnelle	**/45g (%*)**
Valeur énergétique	965kJ (12%) 230kcal (12%)
Matières grasses	11.5g (16%)
dont saturés	4.7g (24%)
Glucides	26.5g (10%)
dont sucres	24.0g (27%)
Protéines	4.4g (9%)
Sel	0.04g (<1%)

*Apport de références pour un adulte-type (8 400 kJ/2 000 kcal)

Information Nutritionnelle	Quantité (%*)		**Quantité (%*)**	
Portion: 45g	**Matières grasses** 11.5g	**16%**	**Glucides** 26.5g	**10%**
Valeur énergétique: 965kJ (12%)	dont saturés 4.7g	**24%**	dont sucres 24.0g	**27%**
230kcal (12%)	Protéines 4.4g	**9%**	Sel 0.04g	**<1%**
*Apport de références pour un adulte-type (8 400 kJ/2 000 kcal)				

FIGURE 1

Effect of nutrition labeling type and food type on purchase intention.

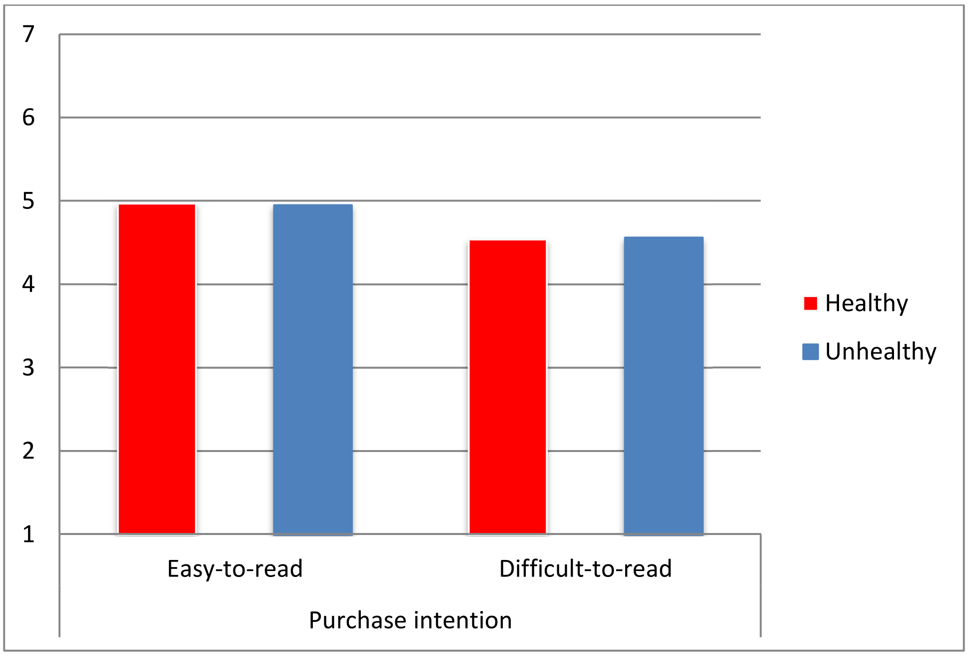

FIGURE 2

Purchase intention as a function of nutrition labeling type and subjective nutrition knowledge.