Front-of-pack nutrition labelling

Testing effectiveness of different nutrition labelling formats front-of-pack in four European countries

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Introduction

- The aim of the nutrition fact box back-of-pack is to help consumers make healthier choices\(^1\)

- Majority of consumers find back-of-pack nutrition labels confusing\(^2\)

- A complementary front-of-pack label may be more effective in helping consumers make healthier choices\(^3\)

\(^1\)Kurtzweil, 1993
\(^2\)Cowburn & Stockley, 2005; Shannon, 1994; EUFIC, 2005; Wandel, 1999; Shine et al, 1997; Byrd-Bredbenner et al, 2000; Scott & Worsley, 1997; Sadler, 1999
\(^3\)Scott & Worsley, 1994; Geiger at al., 1991
Examples of front-of-pack labels

- **Green Keyhole**
  - Sweden

- **Health Check symbol**
  - Canada

- **Pick the Tick**
  - Australia/ New Zealand

- **Smart spot**
  - PepsiCo

- **Multiple Traffic Light**
  - Food Standards Agency UK

- **Multiple Traffic Light**
  - Sainsbury’s UK

- **Guideline Daily Amounts (GDAs)**
  - Tesco UK

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**Simple formats**

**Complex formats**
Which format is most effective?

Two studies

- **Study 1**: focus on consumer friendliness
  - Understand
  - Credible
  - Liking
  - Change in perceived healthiness

- **Study 2**: focus on decision making
  - Change in perceived healthiness
  - Change in behavioural intention
  - Speed of information processing
Study 1: focus on consumer friendliness
Method

- Online survey

- Nationally representative sample (N= 1630), by quota sampling on gender, education level and age (18-55 years)
  - N= 316 United Kingdom
  - N= 447 Germany
  - N= 430 Italy
  - N= 437 The Netherlands

- Dependent variables

  Understand  Credible  Liking  Change in perceived healthiness
Within subjects design

- **Type of labelling format (6)**

- **Product category (3):** Dairy drink, Ice cream and Spreads

- **Healthiness of product (2):** Healthier versus less healthy variant
Each format shown with all pairs

- Participants were randomly assigned to 3 out of the 6 nutrition labelling formats.
Procedure (study 1)

- Exposure to 1st labelling format on 1st product pair
- Judgement of labelling format and products
- Repeated for product pair 2 and 3 and format 2 and 3
- Participants rated in total 9 pairs of product with FOP labels
- Completion questionnaire background variables
All formats meet basic requirements for consumer friendliness (study 1)

- Except for the Health Protection Factor

Note. Means in the same column that do not share superscripts differ at p < .01 (Tukey-Kramer)
All formats help to differentiate (study 1)

- All labelling formats seem to be able to help consumers to differentiate between healthier and less healthy variants of the same product category
- *Health Protection Factor* the least

Note. Means in the same column that do not share superscripts differ at p < 0.01 (Tukey-Kramer)
Traffic Light least consistent differentiator (study 1)

F(5, 3239) = 15.4, p < .0001

Note. Means in the same column that do not share superscripts differ at p < 0.01 (Tukey-Kramer)
Discussion (study 1)

- All formats meet basis requirements, except for Health Protection Factor

- Although Multiple Traffic Light scored slightly better with respect to consumer friendliness it seems less ideal as differentiator

  But what will happen in the real world?

- Experimental setting is different from a shopping situation

- Consumers spend little cognitive effort on food choice at point of purchase

  1Hoyer, 1984
  2Scott and Worsley, 1997
Study 2

Investigate the effect of the labelling formats on decision making when taking into account the shopping environment

Behavioural intention

Speed of information processing
Method (study 2)

- Online survey

- Nationally representative sample (N= 776)
  - N= 405 United Kingdom
  - N= 371 Italy

- Dependent variables
  - Understand
  - Liking
  - Change in perceived healthiness
  - Change in behavioural intention
  - Speed of information processing
Within subjects design (study 2)

- Type of labelling format (4)
  - Healthier Choice Tick
  - Multiple Choice Tick
  - Stars
  - GDAs

- 2 different test methods
  - Product Pair (study 1)
  - Shopping Basket – to better replicate reality
Procedure (study 2)

1. Baseline measurement: current usage & current perceived healthiness

2. Completion questions on demographics, health behaviours, attitudes and nutritional knowledge

3. Product Pair test (2 formats for both product pairs)
   3.1. Questions on liking, perceived healthiness, intention to use less or more and usage frequency

4. Shopping basket test (2 formats)
   4.1. Questions on comprehension and liking of the labelling format
   4.2. Pop up of the less healthy product variants that were used more than once a month, together with their healthier variant. Questions on perceived healthiness, intended usage frequency and intention to use less or more for both products
All formats meet basic requirements of consumer friendliness (study 2)

- **Stars** scored highest on comprehension
- Liking differs per test type
  - Interaction between Format and Test type was significant, $F(3, 2288) = 11.1, p < .0001$

<table>
<thead>
<tr>
<th>Healthier Choice Tick (n=392)</th>
<th>Multiple Choice Tick (n=376)</th>
<th>Stars (n=356)</th>
<th>GDA scores (n=406)</th>
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<tbody>
<tr>
<td>Comprehension</td>
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<td>Liking</td>
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Note. Means in the same column that do not share superscripts differ at $p < 0.01$ (Tukey-Kramer)
Formats increase perceived healthiness healthier products (study 2)

- No consistent pattern across healthier and less healthy products and test types

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Mean difference score (baseline minus post measurement)

-1 0 1

\[ F (3, 759) = 13.4, p < .0001 \]

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\[ F (3, 683) = 5.3, p < .01 \]

\[ F (3, 683) = 9.7, p < .0001 \]

Note. Means in the same column that do not share superscripts differ at \( p < 0.01 \) (Tukey-Kramer)
Formats *decrease* usage intention less healthy products (study 2)

- Slightly *increases* usage intention healthier products
- No significant differences between formats
Simple formats speed up information processing (study 2)

- Participants needed significantly more time to evaluate GDA scores than Healthier Choice Tick and Stars, p < 0.01

Note. Means in the same column that do not share superscripts differ at p < 0.01 (Tukey-Kramer)

*Answering questions was included in evaluation time
Key conclusions

- FOP labels are effective in helping consumers to make healthier choices
- No big differences between formats, except with regard to processing time
  - Healthier choices can be made faster with simple FOP labels, such as a tick logo
- Measuring effectiveness of FOP labels is complex
- Future research should focus on actual behaviour in real life setting
  - Next study: Investigating effect of different FOP labels on speed of decision making at point of purchase
Thank you
Ad1) This is how it was tested
Ad1) Consumers could click for more information, and would see a standard nutrition fact box in a pop-up window.
Example screen - questions

How much do you like this health indicator on this product?
1 do not like at all
2
3
4
5 like extremely

How healthy is this product for you?
1 not healthy at all
2
3
4
5 very healthy

How much do you like this health indicator on this product?
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