The Effects of Front-of-Pack
Nutrition Information and Product Claims on
Consumers’ Product Evaluations and Choice Behaviour

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of Doctor of Philosophy in Marketing
at Massey University, Palmerston North, New Zealand

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Abstract

Enabling consumers to recognise foods’ nutritional profiles is important because energy overconsumption is a significant contributing factor to a worldwide obesity epidemic. Parents especially need to be able to recognise which foods are healthy options for their children to eat regularly, and which are not, as childhood weight and dietary habits instilled while young have long-term implications for adult health. Policy makers are reluctant to regulate marketing of high fat, sugar and salt foods, but collectively the global food industry has implemented a suite of educational and informational interventions intended to help consumers control their weight. Foremost among these is the introduction of new front-of-pack nutrition labels and support for product claims that link nutrients to health-related outcomes.

The objective of this research was to determine whether detailed numeric or simple graphic front-of-pack nutrition labels influence how parents evaluate and choose between products, and could therefore contribute to public health objectives. Additionally, nutrition label performance in the context of product claims was also assessed.

There were two theoretical bases for this research; the first was the Elaboration Likelihood Model (ELM) of persuasion, which offers a general explanation of consumers’ attitudinal reactions to new information. It states that motivation to engage with and ability to understand information determines how people process messages. The research also incorporated behaviour modification perspective, which stresses the role of external forces in shaping behaviour.

Reflecting these two theoretical perspectives, the research used both cognitive and behavioural experimental methodologies. One formative study, two attitudinal experiments and one choice experiment investigated whether:

- new nutrition label formats enhance consumers’ ability to distinguish between foods with differing nutritional values; and
- different nutrition labels formats moderate the influence of varying levels of product claims on consumers’ attitudes and choices.
The formative research revealed that parents often struggle to balance a raft of goals when grocery shopping. While they may hold good nutrition as an important consideration, practical issues such as time pressure, price, convenience and preferences are more salient concerns that militate against using nutrition information.

The two cognitive studies found that parents’ attitudes towards children’s breakfast cereals with varying nutritional profiles were unaffected by predominantly numeric labelling formats; this result was observed in two experiments, confirming the hypothesis that numeric information is not incorporated in product evaluations. Conversely, a graphical “Traffic Light” label did affect parents’ attitudes towards the two breakfast cereals; attitudes towards a less healthy option were significantly lower. The research also confirmed that the current nutrition information panel does not affect consumers’ product choices, but adding nutrition information to the pack fronts did change choice behaviour. Both front-of-pack labels affected parents’ choices, but the Traffic Light label had a greater impact. That is, parents were less likely to choose a less healthy cereal when presented with a Traffic Light label.

The addition of nutrition-content and health claims did not affect parents’ attitudes, but these pieces of information were used when choosing between competing options. In particular, claims had significant choice utility when only numeric nutrition information was available. However, parents were less likely to be swayed by product claims on a less healthy cereal when the Traffic Light label was presented.

In summary, this research suggests that nutrition labels that display information graphically help consumers evaluate energy-dense products more accurately. Given the aim of nutrition labelling is to help consumers make healthier food choices, simple, graphical formats seem more likely to achieve this objective than highly detailed, numeric formats.
Acknowledgements

I would never have considered undertaking a PhD if it were not for Professor Janet Hoek’s support and encouragement. Janet has been a generous mentor and provided me with amazing opportunities, and her support has had a profound effect on my personal development. I’m thankful for her faith in my abilities and for pushing me to achieve goals I would not otherwise have dreamed of.

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Although I frequently promised my partner, Ben Healey, that I would beat him in the race to the PhD finish line, he knew my threats were idle. I thank Ben for his constant companionship, for challenging me to grow intellectually to meet his standard, and for making me sit down and type! He also provided essential practical assistance, designing
the survey website used in the final two studies and helping me to master all the helpful features built into Microsoft Word!

The first study was approved by the Massey University Human Ethics Committee Southern B, Application 06/47. The subsequent quantitative research phases were evaluated by peer review and judged to be low risk, and were recorded on the Low Risk Database of the Massey University Human Ethics Committee in 2008.
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# List of Abbreviations

Where relevant, the country is stated in brackets if not included in the title.

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<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>AFGC</td>
<td>Australian Food and Grocery Council</td>
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<tr>
<td>AICR</td>
<td>American Institute for Cancer Research</td>
</tr>
<tr>
<td>AIHW</td>
<td>Australian Institute of Health and Welfare</td>
</tr>
<tr>
<td>ANA</td>
<td>Agencies for Nutrition Action (New Zealand)</td>
</tr>
<tr>
<td>ANZA</td>
<td>Association of New Zealand Advertisers</td>
</tr>
<tr>
<td>ANZFA</td>
<td>Australia New Zealand Food Authority (superseded by FSANZ)</td>
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<tr>
<td>BMI</td>
<td>Body Mass Index</td>
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<tr>
<td>BMP</td>
<td>Behaviour Modification Perspective</td>
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<tr>
<td>BNF</td>
<td>British Nutrition Foundation</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control (United States)</td>
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<tr>
<td>CSPI</td>
<td>Center for Science in the Public Interest (United States)</td>
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<tr>
<td>DH</td>
<td>Department of Health (England)</td>
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<tr>
<td>DHA</td>
<td>Department of Health and Aging (Australia)</td>
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<tr>
<td>DRV</td>
<td>Daily Reference Value</td>
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<tr>
<td>ELM</td>
<td>Elaboration Likelihood Model of persuasion</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<td>FCQ</td>
<td>Food Choice Questionnaire</td>
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<tr>
<td>FIA</td>
<td>Food Industry Accord (New Zealand)</td>
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<td>FIG</td>
<td>Food Industry Group (New Zealand)</td>
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<tr>
<td>FOE</td>
<td>Fight the Obesity Epidemic (New Zealand)</td>
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<td>FOP</td>
<td>Front-of-pack (referring to placement of information)</td>
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<td>FSA</td>
<td>Food Standards Agency (United Kingdom)</td>
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<td>FSANZ</td>
<td>Food Standards Australia New Zealand</td>
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<td>GAO</td>
<td>Government Accountability Office (United States)</td>
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<td>GDA</td>
<td>Guideline Daily Amount</td>
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<td>HEHA</td>
<td>Healthy Eating Healthy Action (New Zealand Government Policy)</td>
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<tr>
<td>HFSS</td>
<td>High fat, sugar and sodium (salt) foods</td>
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<td>HRM</td>
<td>Hierarchical Multiple Regression</td>
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<td>HSC</td>
<td>Health Select Committee</td>
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List of Publications

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