Ministry for Primary Industries
Manatū Ahu Matua

Research report: The ability of New Zealand consumers to use the Health Star Rating System

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Research report: The ability of New Zealand consumers to use the Health Star Rating System

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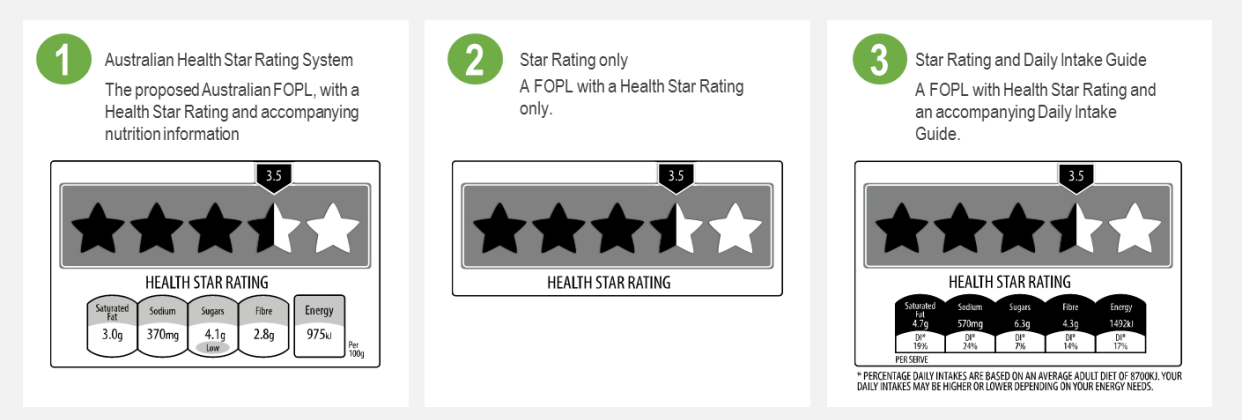
Summary of findings

The Ministry for Primary Industries (MPI) commissioned Colmar Brunton to carry out research on the ability of New Zealand consumers to use the Australian Health Star Rating System, and variants of it.

The main aim of this research was to test whether Front of Pack Labels (FOPLs) have a positive effect on consumers' ability to correctly identify healthier food products. The three systems tested were:



To test the effectiveness of these systems we carried out a controlled experiment. Participants were randomly assigned to one of four independent conditions: a control condition or one of three test conditions.

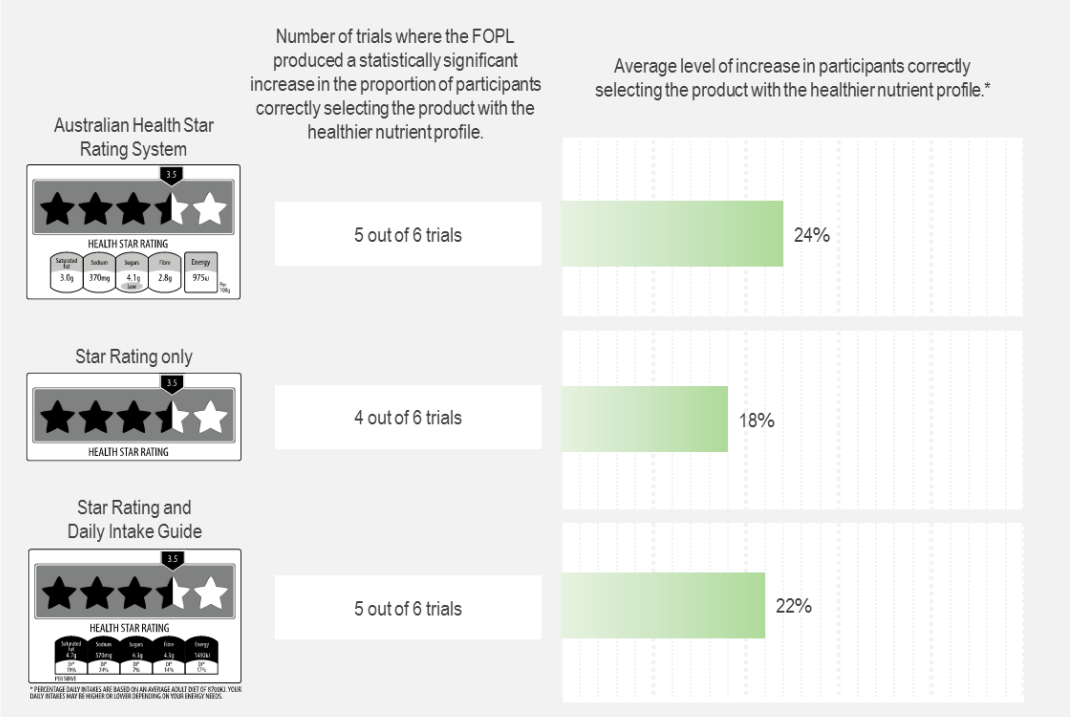
The experiment was carried out online between 15 November and 27 November 2013 among three groups of participants: a General population group (n=1,022) recruited to be representative of the adult New Zealand population, a Māori group (n=696) and a Pacific group (n=567). The latter two groups were defined by MPI as priority groups for the purpose of testing the FOPLs.

In each condition participants were shown two pairs of products, and they were asked to select which was healthier. Participants could enlarge the products, and could click 'flip' to see the rear of a product. The only difference between each condition was the nutrition information provided on the products.

Which (if any) of the FOPL systems has the most positive effect on consumers' ability to correctly identify a healthier food product?

All of the FOPLs tested had positive effects on the ability of consumers to correctly identify healthier food products. Each FOPL variant was tested six times - on both snack foods and frozen meal products and across the three participant groups. The chart on the following page summarises the results across the experiment as a whole.

The *Australian Health Star Rating System* and the *Star Rating and Daily Intake Guide* performed equally well, both in terms of the number of times these FOPLs had a positive effect on the ability of consumers to select the healthier product, and the average increases in the percentage of participants who correctly selected the product with the healthier nutrient profile.



*This is the average of all percentage increases observed over the control conditions for each group of participants.

Other findings relevant to the effect of the FOPLs include:

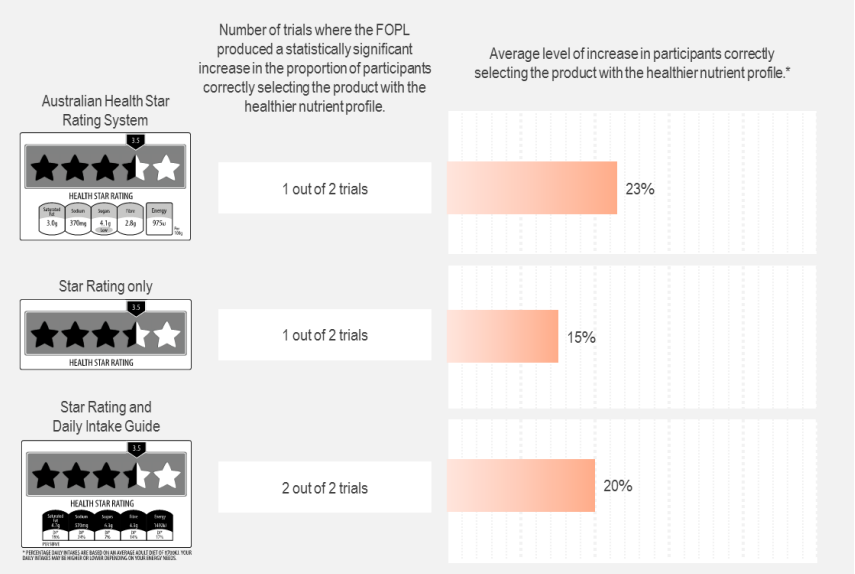
- Ingredients displayed pictorially or in text on the front of packages for promotional purposes, or listed on the rear of products, have an influence on the consumers' decisions and can lead them to incorrectly select less healthy products. FOPLs can help to mitigate this to some extent. Overall, consideration of product ingredients when making healthy food choices tended to *decrease* slightly when FOPLs were displayed on products.
- When the Health Star Rating was shown on products as part of the FOPLs, between 12% and 27% of respondents said, without any prompting, that the Health Star Rating influenced their decision. Use of the interpretive Health Star Rating was greater when there was a full-star as opposed to half-star difference in the five-star rating.
- FOPLs helped participants understand that there was not a substantial difference in the nutritional value for some of the products displayed. In the experimental trials where there was only a half-star difference in the interpretive Health Star Ratings, participants were more likely to recognise that there was 'hardly any difference' between the products if FOPLs were displayed on them.

Which (if any) of the FOPL systems has the most positive effect on the ability of priority groups (Māori and Pacific people) to correctly identify a healthier food product?

Māori group

The chart on the right summarises the results for Māori participants. Again, all of the FOPLs had a positive effect on consumers' ability to select healthier food products.

The *Australian Health Star Rating System* and the *Star Rating and Daily Intake Guide* produced higher average increases (than the *Star Rating only*) in the percentage of participants who correctly selected the product with healthier nutrient profile.



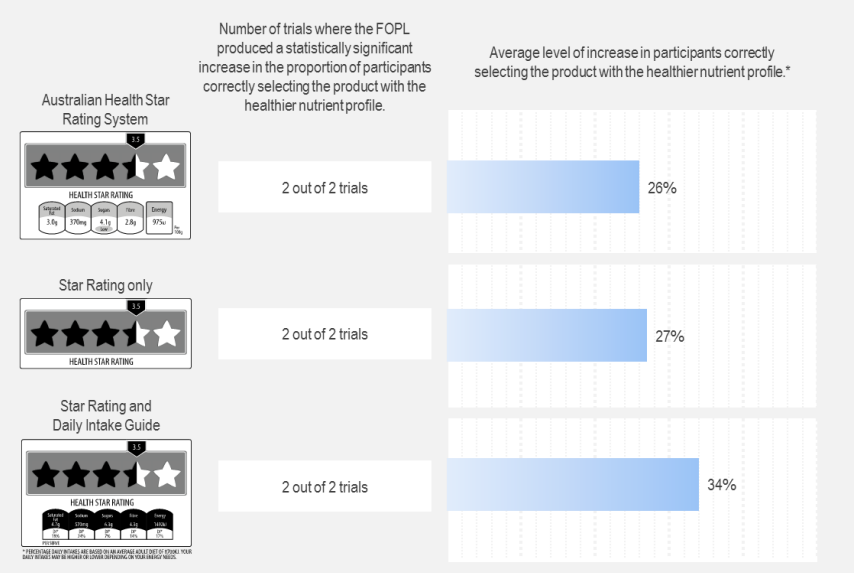
*This is the average of all percentage increases observed over the control conditions for Māori group participants.

The *Australian Health Star Rating System* and *Star Rating only* FOPL had a significant effect in only one of the two test trials. However, in the test trial where the effects did not reach statistical significance (the snack foods trial), the difference in the overall nutritional value of each product was smaller, making the decision between products more challenging in this trial.

Pacific group

The chart on the right summarises the results for Pacific participants. All of the FOPLs had a positive effect on consumers' ability to select healthier food products, in all test trials and experiments conditions.

The *Star Rating and Daily Intake Guide* produced highest average increases in the percentage of participants who correctly selected the product with healthier nutrient profile.



*This is the average of all percentage increases observed over the control conditions for Pacific group participants.

Was there any potential for confusion or misuse of the Health Star Rating system (or elements of) apparent from the research?

We did not find any direct evidence that the FOPLs were misleading or confusing. However the following points may be worth considering when developing an FOPL system for use in New Zealand.

- When the FOPLs display a Health Star Rating along with a breakdown of a product's nutrient content, we speculate that participants tended to view the Health Star Rating as being inherently linked to the nutrient values displayed on the FOPL, and that this made these FOPLs more persuasive. When a breakdown of a product's nutrient content is not displayed with the Health Star Rating (ie, in the *Star Rating only* condition), it is possible that consumers will place less weight on the rating when making health-based decisions. Further research would be needed to confirm this.
- Those who incorrectly selected a product with a less healthy nutrient profile tended not to use the Health Star Rating when making health-based product decisions. This may be because a) they did not see the rating, b) they did not know how to interpret it, or c) they did not believe the rating to be correct. Further research would be needed to gain a diagnostic understanding of the labels, and whether design and/or content changes can be made to maximise their effectiveness.

Background and objectives

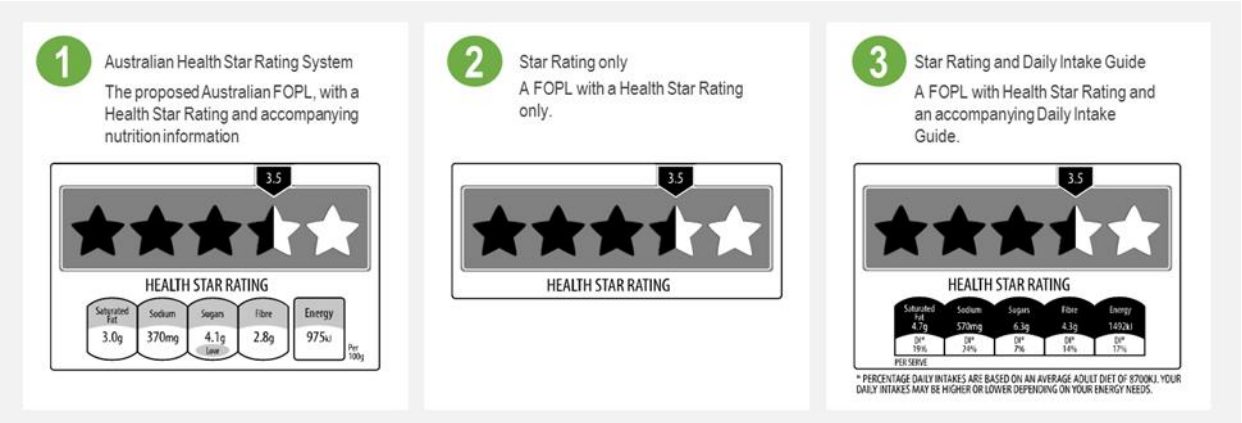
At the June 2013 Forum on Food Regulation, Australian Food Regulation Ministers endorsed the proposed Australian approach to voluntary Front of Pack Labels (FOPLs).

Also in June, the New Zealand FOPL Advisory Group was re-established to advise the New Zealand Minister for Food Safety on key aspects of an approach to voluntary interpretive front of pack labelling in New Zealand. In particular, the Advisory Group was tasked with exploring how New Zealand can align with the FOPL system developed in Australia, while having regard for the principles for voluntary interpretive front of pack labelling developed by the FOPL Advisory Group in 2012.

The Ministry for Primary Industries (MPI) commissioned Colmar Brunton to carry out research on the ability of New Zealand consumers to use the Australian Health Star Rating System.

People may base their decisions about healthy foods on a range of information, including their pre-conceived ideas about what products or brands are healthier than others, the images on the packaging, the product weights and number of servings, pricing, the ingredients, and the nutrition information provided on the products.

The main aim of this research was to test whether FOPLs can assist consumers to correctly identify healthier food products. The research did not set out to test whether consumers will use FOPLs to make healthier food choices. The research tested three systems.



The specific objectives of this research were to learn:

1. Which (if any) of the FOPL systems has the most positive effect on consumers' ability to correctly identify a healthier food product.
2. Which (if any) of the FOPL systems has the most positive effect on the ability of priority groups (Māori and Pacific people) to correctly identify a healthier food product.
3. Whether there is any potential for confusion or misuse of the Health Star Rating system (or elements of it) apparent from the research.

Methodology summary

Brief methodology

To test the effectiveness of these systems we carried out a controlled experiment between 15 November and 27 November 2013. A comprehensive methodology description can be found in Appendix A.

- The experiment was carried out online among three groups of participants:
  - General population group (n=1,022) recruited to be representative of the adult New Zealand population.
  - A Māori group (n=696) and a Pacific group (n=567), who MPI defined as priority groups for the purpose of testing the FOPLs.
- Once recruited, the participants in each group were randomly assigned to one of four independent conditions. In each condition participants were shown two pairs of products, and they were asked to select which was healthier. Participants were able to enlarge the products, click 'flip' to see the rear of a products.
- The only difference between each condition was the nutrition information provided on the products.
  - **Control condition** – In the control condition, each of the product images only included the standard nutrition information panel (NIP) that is typically displayed on the rear of products.
  - **Three experimental conditions** – In each of the experimental conditions, in addition to the NIP that is typically displayed on the rear of products, each product also displayed a FOPL. Each experimental condition tested one of the three FOPL systems described above.
- The primary 'dependent variable' was the proportion of participants able to correctly select the healthier item in each trial. If the FOPLs assist people to select healthier items, more participants will be able to select the healthier item in the experimental conditions when compared to in the control condition.
- Other measures reported include reasons for making health-based decisions about products, time taken to reach decisions, and the subjective comparisons of products' healthiness.
- On average the experiment took participants around five and a half minutes to complete.

Additional notes for the reader

Significance testing

Any differences highlighted in this report are significant at the 95% confidence level for sample sizes over 200, and the 90% confidence level for sample sizes under 200.

Percentages calculations and rounding

Please note that occasionally the percentages in the charts and tables do not add to 100%, or to the nett percentages in text. This is because each percentage in each chart and table has been rounded to a whole number. When calculating nett percentages, only the final result is rounded to a whole number. This reduces the influence of rounding error in the final result.

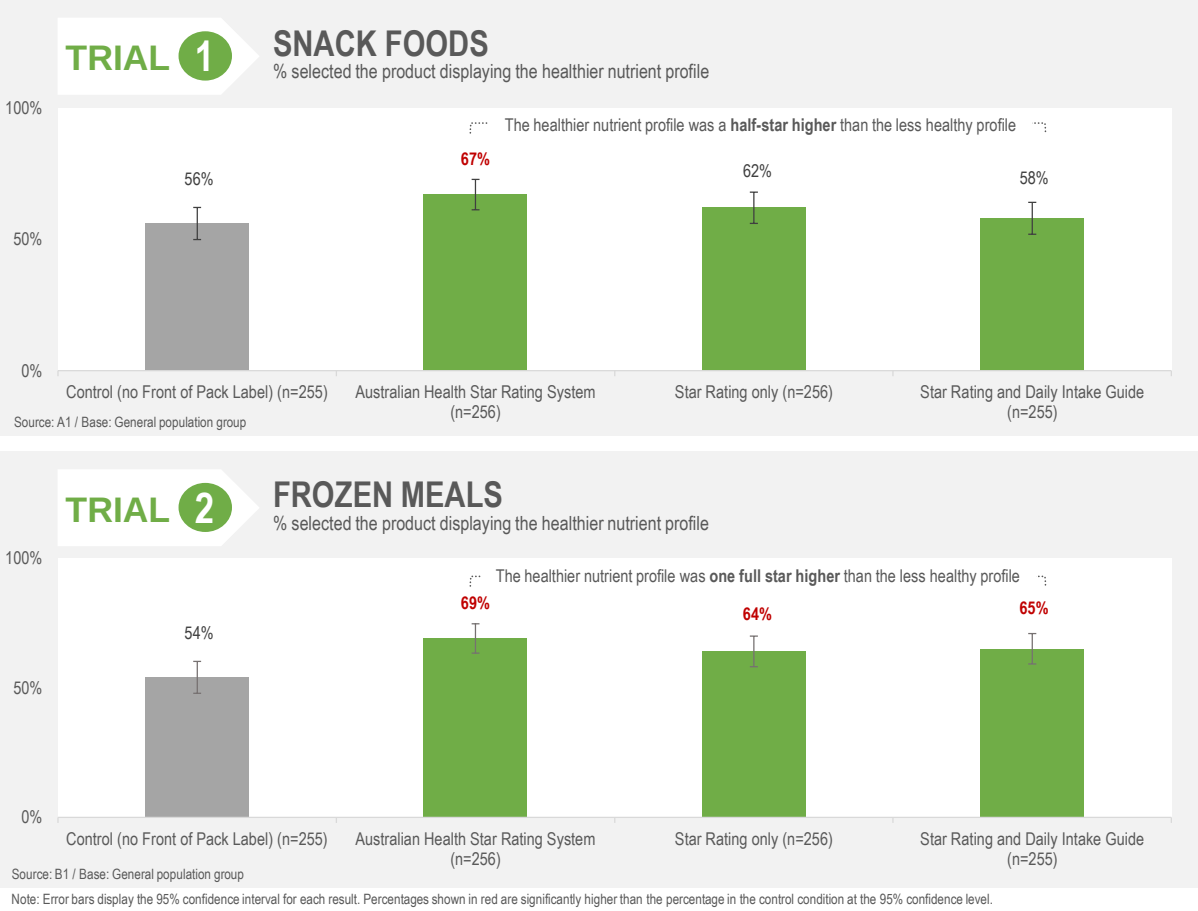
Detailed results

General population group results

Consumers' ability to use FOPLs

The charts below display the proportion of participants in each condition who correctly selected the product displaying the healthier nutrient profile.

In the control condition the only nutrition information was provided on NIP, displayed on the rear of the product. In this condition just over half of participants selected the healthier product in Trial 1 (56%) and Trial 2 (54%).



Note: Error bars display the 95% confidence interval for each result. Percentages shown in red are significantly higher than the percentage in the control condition at the 95% confidence level.

Do the FOPLs significantly improve consumers' ability to select healthier food products?

In Trial 2, where there was a full-star difference in the Health Star Rating between the healthier and less healthy products, all FOPLs improved consumers' ability to select the healthier food product. In Trial 1, where there was a half-star difference between the healthier and less healthy products, only the *Australian Health Star Rating System* FOPL significantly improved consumers' ability to select the healthier food product.

The proportion of participants who selected the product displaying the healthier nutrient profile in each experimental trial was compared to the proportion who did so in the control condition.

- Within Trial 1, only the *Australian Health Star Rating System* significantly improved participants' ability to select the healthier product. In this trial the healthy and less healthy products differed by a half-star on interpretive Health Star Rating shown on the FOPL.
- Within Trial 2, all three FOPLs significantly improved participants' ability to select the healthier product. In this trial the healthy and less healthy products differed by a full star on interpretive Health Star Rating shown on the FOPL.

Which FOPL is most effective for assisting consumers to select healthier food products?

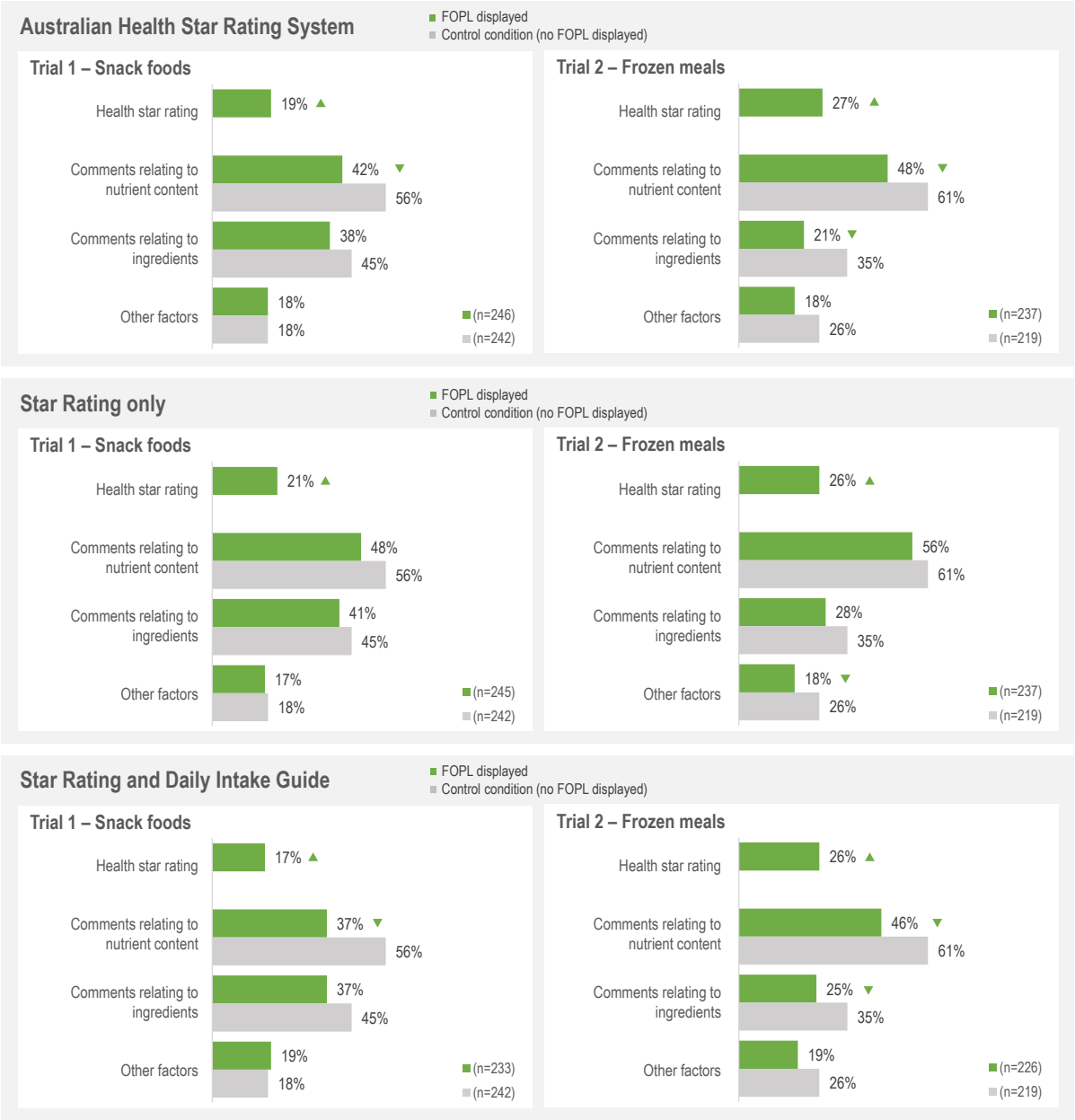
In Trial 2, where there was a full-star difference in the Health Star Rating between the healthier and less healthy products, all FOPLs performed equally well. In Trial 1, where there was a half-star difference between the healthier and less healthy products, the *Australian Health Star Rating System* FOPL was the most effective.

The proportion of participants who selected the product displaying the healthier nutrient profile was compared across each experimental condition.

- In Trial 1, the *Australian Health Star Rating System* FOPL performed significantly better than the *Star Rating and Daily Intake Guide* FOPL. There were no other significant differences.
- In Trial 2 there were no significant differences between FOPLs.

Factors considered when making healthy food choices

Without any prompting with possible answers, we asked all participants to give us their reasons for deciding one product was healthier than the other. The reasons given were detailed and diverse. A summary of the results is displayed in the chart below. Detailed results are shown in Appendix F.



Source: A2 and B2 / Base: General population able to make a decision about which product was healthier. Note: Arrows indicate significant differences from the control condition at the 95% confidence level.

Deciding factors within the snack foods and frozen meals categories

By examining results in the control condition, we can better understand some of the factors that influenced participants' health-related food decisions.

In the frozen meals trial (Trial 2), nutrient information was the primary factor that influenced participants' decisions about which product was healthier. The detailed tables in Appendix F show that the fat content was of particular importance when deciding whether the pizza or the pie was healthier. The difference in total fat

quantities between the two nutrient profiles was fairly large (at 15g per serve), and this may have helped participants differentiate the products based on their overall nutritional value.

In the snack foods trial (Trial 1), although the nutrient information was still of *primary* importance, the products' *ingredients*, shown on the front of the package and listed on the rear, played a more significant role in participants' choices. The detailed tables in Appendix F show that, in particular, participants tended to consider the presence of grains, wheat, oats, chocolate, and fruit. When it came to the nutrient information for the snack food products, participants tended to focus mainly on the fat and sugar content. The differences in total fat and sugar content between the two nutrient profiles were fairly small relative to the products shown in Trial 2 (at 3.4g and 0.6g respectively), so it may have been more difficult for participants to differentiate the products based on their nutrient information.

What differences did the FOPLs make?

The presence of the interpretive Health Star Rating

The presence of the Health Star Rating appears to have had a substantial influence on healthy product choices. Across all trials and experimental conditions, between 17% and 27% of those in the General population group said (without any prompting) that the interpretive Health Star Rating was a factor in their decision.

The Health Star Rating was a more important factor in the frozen meals trial (Trial 2), where the products differed by a full star, than the snack foods trial (Trial 1), where the products differed by a half-star and the product ingredients played a greater role in participants' decisions.

The nutrient content of the products

When the Health Star Rating was presented together with nutrient breakdowns, *fewer* participants appeared to consider the nutrient content of the products in the frozen meals trial (Trial 2).

Further research would be needed to explore this finding, but we speculate that for the *Australian Health Star Rating System* and *Star Rating and Daily Intake Guide* (which both displayed a breakdown of each product's nutrient content), participants may have viewed the Health Star Rating as being inherently linked to the nutrient values displayed on the FOPL, so there was less of a need to consider the individual nutrient values when making their decision.

The product ingredients

When the FOPLs were displayed on products, fewer participants appeared to consider the product ingredients when making decisions about which product was healthier. This is most evident in the frozen meals trial (Trial 2) when the *Australian Health Star Rating System* and *Star Rating and Daily Intake Guide* were shown. There were also decreases in the proportion of participants considering product ingredients in the other trial and conditions, although those differences were not statistically significant.

What were the bases for incorrect decisions?

To understand why participants incorrectly selected products with the less healthy nutrient profile, we compared the reasons they gave against those given by participants who made the correct choice. Results are shown in the table on the following page. The findings suggest that participants who made an incorrect choice:

- Tended not to use the interpretive Health Star Rating (ie, either these respondents did not see the rating, they did not know how to interpret it, or they did not believe the rating to be correct).

- Were more likely than those who selected the correct product to base their decision on the products' ingredients (ie, the wheat, oats, cheese or meat contained in the product).
- Were generally less likely than those who selected the correct product to base their decision on nutrient information (ie, the amount of fat, protein, sugar, energy sodium, etc).

An exception was for the *Rating Star only* condition (no nutrient values were displayed on the FOPL) where participants who made an incorrect choice were more likely than those who chose correctly to say they based their decision on nutrient information.[1] This suggests that these respondents either found it difficult to compare the NIPs on the rear of each product, or they were basing their decision on the *assumed* nutritional value or preconceived perceptions of the products, rather than the details provided on the NIP.

Factors that influenced incorrect versus correct decisions for the General population group

	Control group (no FOPL shown)		Australian Health Star Rating System		Rating Star only		Rating Star and Daily Intake Guide	
	Correct %	Incorrect %	Correct %	Incorrect %	Correct %	Incorrect %	Correct %	Incorrect %
Trial 1 – Snack foods								
Health Star Rating	-	-	26	4	33	1	25	4
Comments relating to nutrient content	59	51	46	32	43	57	39	34
Comments relating to ingredients	38	54	31	54	33	55	30	49
Other factors	16	22	15	24	17	16	19	20
Base (n=)	139	103	170	76	156	89	150	83
Trial 2 – Frozen meals								
Health Star Rating	-	-	36	2	36	5	32	9
Comments relating to nutrient content	66	51	49	44	53	62	52	32
Comments relating to ingredients	27	48	16	33	20	43	18	44
Other factors	24	31	15	29	15	23	17	23
Base (n=)	135	84	180	57	168	69	165	61

Source: A2 and B2

Base: Those in the General population group who correctly selected the product with the healthier nutrient profile, or incorrectly selected the product with the less healthy nutrient profile.

Note: 'Incorrect' percentages shown in red are significantly lower than the corresponding 'correct' percentage in the same condition at the 90% confidence level. 'Incorrect' percentages shown in green are significantly higher than the corresponding 'correct' percentage in the same condition at the 90% confidence level.

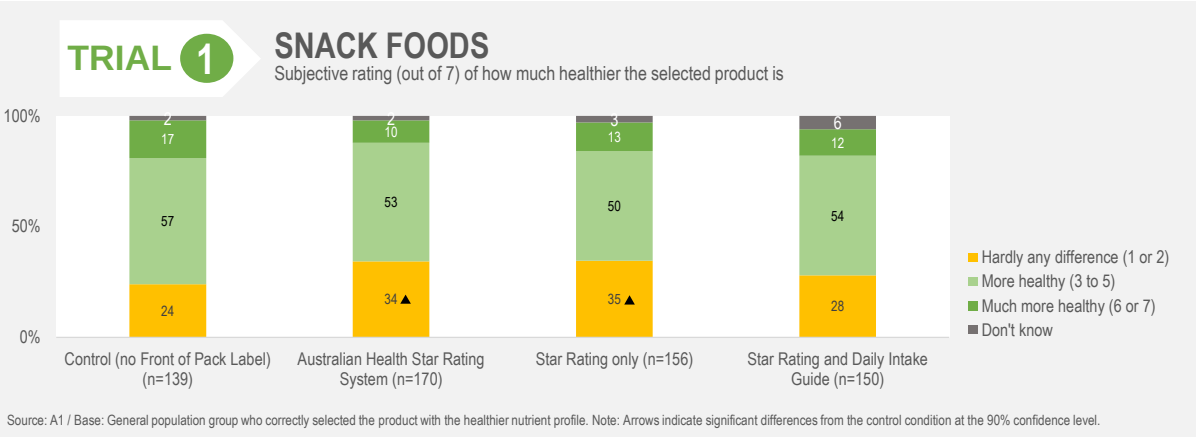
[1] This difference was statistically significant only in Trial 1 of the *Rating Star only* condition, however the direction of the result was similar in Trial 2, where 62% of participants who answered incorrectly provided comments relating to nutrient content, compared to 53% who answered correctly.

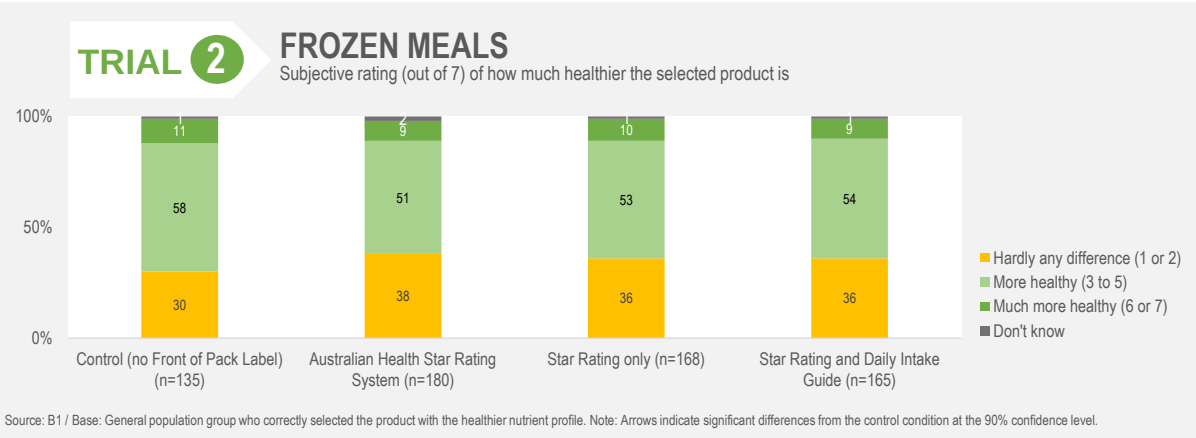
Subjective comparisons of healthiness

The difference in the overall nutritional value of each product was deliberately kept fairly small. This was done because the purpose of the FOPLs is to assist consumers to make choices they are struggling with, rather than reinforce more obvious health-based decisions. Having said this, the difference in nutrient content was more substantial in Trial 2 than in Trial 1, due mainly to there being a greater difference in fat content and energy per serve in Trial 2. The interpretive component of the FOPLs (the Health Star Rating) differed by one-half star in the Trial 1 (snack foods) and one full star in Trial 2 (frozen meals).

We wanted to gauge the extent to which FOPLs influenced consumers' perceptions about how healthy one product is from another. Following each trial we asked participants to tell us how much healthier their selected product was compared to the product they did not select. Participants could answer on a 7-point scale from 1 (there is hardly any difference when it comes to how healthy they are) to 7 (their selected product was much healthier).

Results are shown in the chart below. Please note that for the purpose of this analysis, we have excluded results for those who did not select the product with the healthier nutrient profile.





In Trial 1, the presence of the FOPL tended to increase participants' understanding that there was not a large difference in the nutritional value of the products displayed.

- In the control condition, where no FOPL was present, nearly a quarter (24%) of participants believed there was 'hardly any difference' between the two products in Trial 1 (a score of 1 or 2 out of 7). This increased

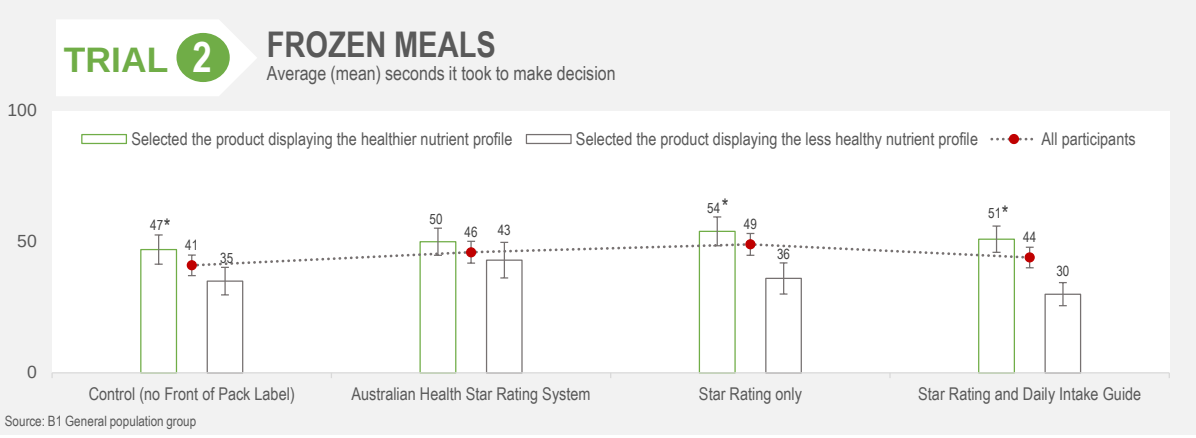
significantly to over one third (34%) when the *Australian Health Star Rating System* or *Star Rating only* (35%) was present.

- Although there also appears to be an increase when the *Star Rating and Daily Intake Guide* was present, the difference from the control condition was not large enough to be statistically significant.

In Trial 2 the presence of all three FOPLs also appears to have increased perceptions that there was little difference between the products. However again, the differences between the FOPL conditions and control condition were not large enough to be statistically significant.

Time taken by consumers to reach decisions

Using our online survey software we were able to measure the total time taken by each participant to read each question, examine the product images, and decide which product was healthier. The average time it took participants in each condition is shown below. The line shows the average time taken for all participants in each condition, and the bars show the average time taken by those who selected the product with the healthier and less healthy nutrient profile.[2]



Note: Error bars display the 95% confidence interval for each mean. Means shown in red are significantly higher than the mean in the control condition at a 5% alpha level; * and † indicate significant differences compared to those who selected the product in that condition displaying the less healthy nutrient profile (at the 5% (*) or 10% (†) alpha level).

Overall there were no statistically significant differences between trials in the average time taken to reach decisions.

As can be seen in the chart, within almost every condition, those who correctly selected the product displaying healthier nutrient profile tended to take longer to reach their decision. The exception was for those in the *Australian Health Start Rating System* condition, where the differences between those who selected the product with healthier and less healthy nutrient profile were not statistically significant.

It is also worth noting that the time differences between those who selected the product with the healthier and less healthy nutrient profile are generally smaller in the snack foods trial (Trial 1) than the frozen meals trial (Trial 2). This may be because, relative to the frozen meals trial (Trial 2), the difference in overall

[2] In an online experiment it is possible for a participant to become distracted in some way while the experiment is in progress. To mitigate the influence that extreme times had on the mean time calculation, we excluded all times above the 95th percentile.

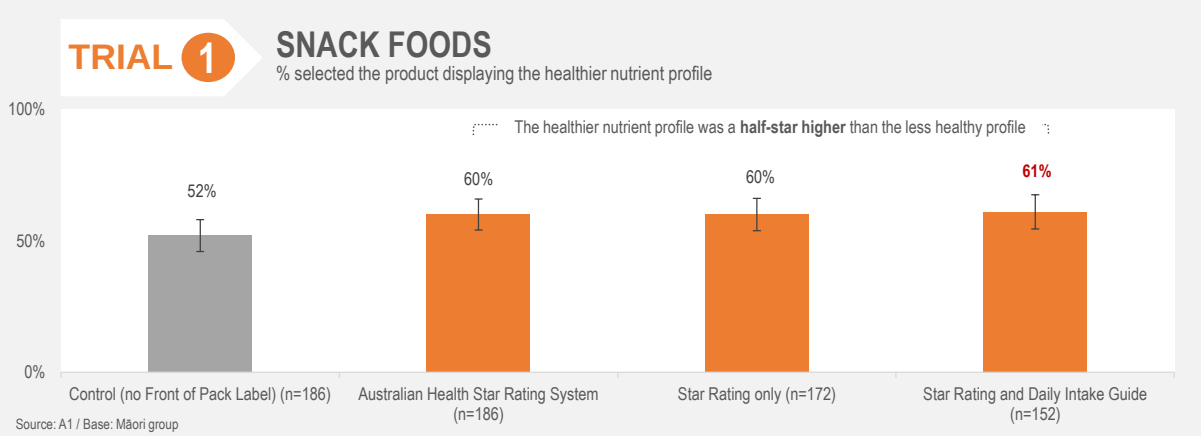
nutritional value was less obvious, and participants were more likely to be considering the product ingredients in addition to the nutrition information displayed on the FOPL and NIP.

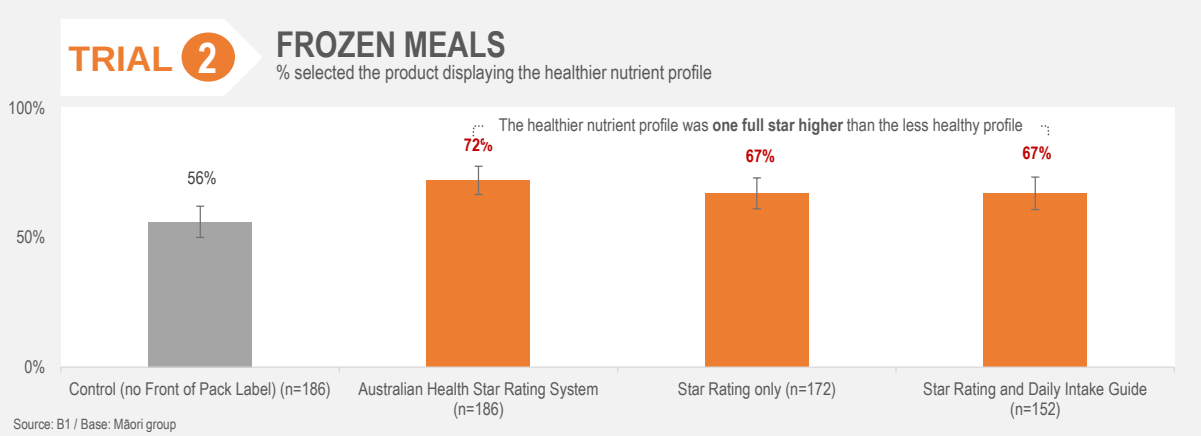
Māori group results

Consumers' ability to use FOPLs

The charts below display the proportion of participants in each condition who correctly selected the product displaying the healthier nutrient profile.

In the control condition the only nutrition information was provided on NIP, displayed on the rear of the product. In this condition just over half of the Māori participants selected the healthier product in both Trial 1 (52%) and Trial 2 (56%). The ability of the Māori group to select the product displaying the healthier nutrient profile did not differ significantly from the General population group.





Note: Error bars display the 90% confidence interval for each result. Percentages shown in red are significantly higher than the percentage in the control condition at the 90% confidence level.

Do the FOPLs significantly improve Māori consumers' ability to select healthier food products?

Similar to the results for the General population group, FOPLs were more likely to assist Māori consumers when there was a full-star rather than a half-star difference in the Health Star Rating between the healthier and less healthy products.

The proportion of Māori participants who selected the product displaying the healthier nutrient profile in each experimental trial was compared to the proportion who did so in the control condition.

- Within Trial 1, only the *Star Rating and Daily Intake Guide* FOPL significantly improved Māori participants' ability to select the healthier product. In this trial the healthy and less healthy products differed by a half-star on interpretive Health Star Rating.
- Within Trial 2, all three FOPLs significantly improved Māori participants' ability to select the healthier product. In this trial the healthy and less healthy products differed by a full star on interpretive Health Star Rating.

Which FOPL is most effective for assisting consumers to select healthier food products?

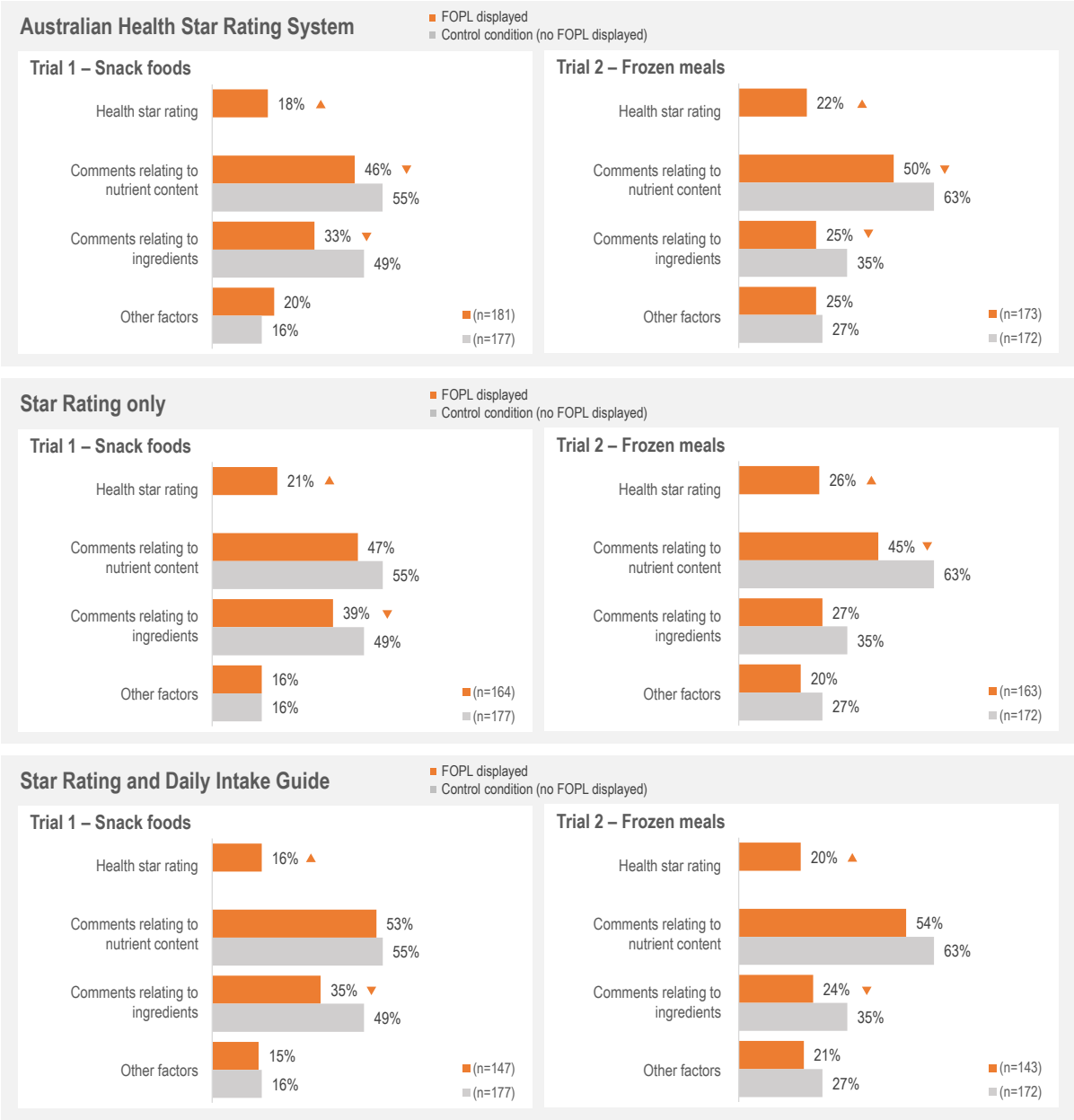
Statistically no FOPL was more effective than any other FOPL in either Trial 1 or Trial 2.

The proportion of Māori participants who selected the product displaying the healthier nutrient profile was compared across each experimental condition.

- In Trial 1 there were no significant differences between FOPLs.
- In Trial 2 there were no significant differences between FOPLs.

Factors considered when making healthy food choices

Without any prompting with possible answers, we asked all participants to give us their reasons for deciding one product was healthier than the other. The reasons given were detailed and diverse. A summary of the results for Māori participants is displayed in the chart below. Detailed results are shown in Appendix F.



Source: A2 and B2 / Base: Māori participants able to make a decision about which product was healthier. Note: Arrows indicate significant differences from the control condition at the 90% confidence level.

Deciding factors within the snack foods and frozen meals categories

By examining results in the control conditions, we can better understand some of the factors that influence participants' health-related food decisions. In this respect, the results for Māori participants mirror the results for those in the General population group.

In the frozen meals trial, the nutrient content of the products was the primary factor that influenced Māori participants' decisions about which product was healthier. In the snack foods trial, although the *nutrient*

information was still of primary importance, the products' *ingredients*, shown pictorially and in text on the front of the package, and listed on the rear, played a more significant role in Māori participants' choices.

What differences did the FOPLs make?

The presence of the interpretive Health Star Rating

Similar to the General population group, the presence of the Health Star Rating had a substantial influence on Māori participants' healthy product choices. Across all trials and experimental conditions, between 16% and 26% of those in the Māori group said (without any prompting) that the interpretive Health Star Rating was a factor in their decision.

The Health Star Rating tended to be a more important factor in the frozen meals trial (Trial 2), where the products differed by a full star, than in the snack foods trial (Trial 1), where the products differed by a half-star and the ingredients played a greater role in participants' decisions.

The importance of product ingredients when FOPLs are present

For the Māori group, the presence of an FOPL decreased the likelihood that participants used the product ingredients to make the product choices. This was the case in every condition and trial, except in the frozen meals trial (Trial 2) in the *Star Rating only* condition. In this condition the results also showed a decrease in the likelihood to use the product ingredients, however the difference from the control condition (down from 35% to 27%) was not statistically significant.

The nutrient content of the products

In the General population group, *fewer* participants appeared to consider the nutrient content of the products when the *Australian Health Star Rating System* and *Star Rating and Daily Intake Guide* were present.

For the Māori group, this effect was seen only for *Australian Health Star Rating System.* The presence of the *Star Rating and Daily Intake Guide* did not significantly influence the proportion of Māori participants considering the nutrient content in their selection.

In addition, the presence of the *Star Rating only* FOPL appears to have had an influence on the proportion of Māori participants considering the nutrient information in their choice, with fewer participants considering this information in the frozen meals trial (Trial 2). We are unsure why the presence of the *Star Rating only* FOPL would influence the consideration of nutrient content in this trial but not the snack foods trial (Trial 1).

What were the bases for incorrect decisions?

To understand why participants incorrectly selected products with the less healthy nutrient profile, we compared the reasons they gave against those given by participants who made the correct choice. Results are shown in the table on the following page, and are similar to those in the General population group. The findings show that Māori participants who made an incorrect choice:

- Tended not to base their decisions on the Health Star Rating (ie, either these respondents did not see the rating, they did not know how to interpret it, or they did not believe the rating to be correct).
- Were more likely than those who selected the correct product to base their decision on product ingredients (ie, the wheat, oats, cheese or meat contained in the product).
- Were generally less likely than those who selected the correct product to base their decision on the nutrient information (ie, the amount of fat, protein, sugar, energy sodium, etc).

Factors that influenced incorrect versus correct decisions for the Māori group

	Control group (no FOPL shown)		Australian Health Star Rating System		Rating Star only		Rating Star and Daily Intake Guide	
	Correct %	Incorrect %	Correct %	Incorrect %	Correct %	Incorrect %	Correct %	Incorrect %
Trial 1 – Snack foods								
Health Star Rating	-	-	25	6	33	2	26	-
Comments relating to nutrient content	61	48	48	44	45	50	55	50
Comments relating to ingredients	41	58	23	49	34	48	30	44
Other factors	17	14	22	17	15	19	12	20
Base (n=)	97	80	111	70	102	62	93	54
Trial 2 – Frozen meals								
Health Star Rating	-	-	28	3	36	2	27	2
Comments relating to nutrient content	73	49	54	37	43	50	59	42
Comments relating to ingredients	25	50	20	43	20	46	16	46
Other factors	26	28	23	32	17	28	16	34
Base (n=)	104	68	133	40	115	48	102	41

Source: A2 and B2

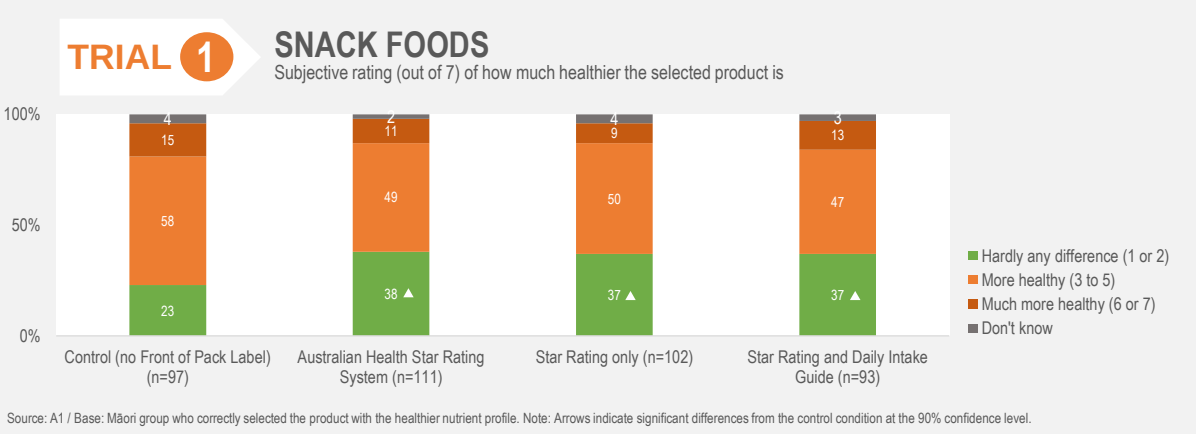
Base: Those in the Māori group who correctly selected the product with the healthier nutrient profile, or incorrectly selected the product with the less healthy nutrient profile.

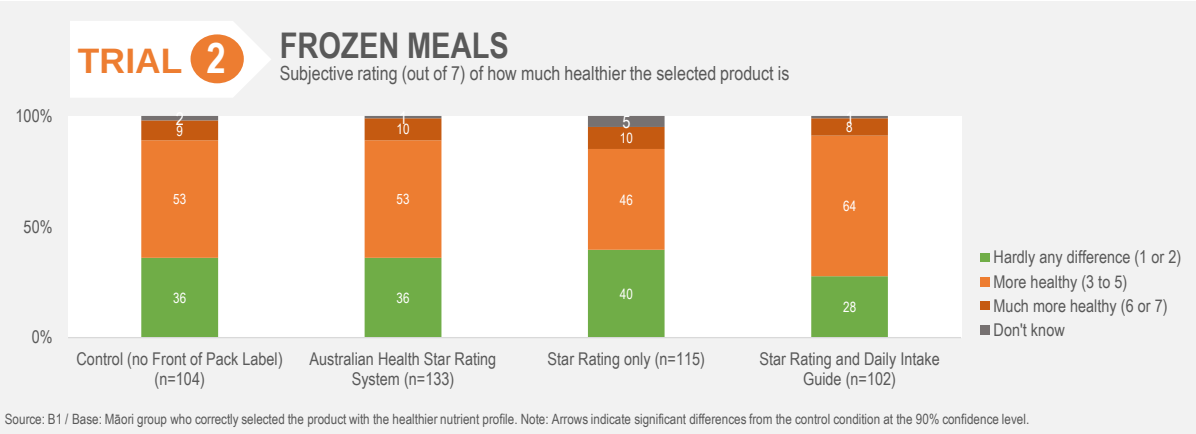
Note: 'Incorrect' percentages shown in red are significantly lower than the corresponding 'correct' percentage in the same condition at the 90% confidence level. 'Incorrect' percentages shown in green are significantly higher than the corresponding 'correct' percentage in the same condition at the 90% confidence level.

Subjective comparisons of healthiness

Following each trial we asked participants to tell us how much healthier their selected product was compared to the product they did not select. Participants could answer on a 7-point scale from 1 (there is hardly any difference when it comes to how healthy they are) to 7 (their selected product was much healthier).

Results for Māori participants are shown in the chart below. Please note that for the purpose of this analysis, we have excluded results for those who did not select the product with the healthier nutrient profile.





In Trial 1 the presence of the FOPL tended to increase Māori participants' understanding that there was not a substantial difference in the nutritional value of the products displayed.

- In the control condition, where no FOPL was present, nearly a quarter (23%) of Māori participants believed there was 'hardly any difference' between the two products in Trial 1 (a score of 1 or 2 out of 7). This result was similar for the General population group.
- The proportion of Māori participants who believed there was 'hardly any difference' between the two products increased significantly to over one third (38%) when the *Australian Health Star Rating System*, *Star Rating only* (37%), or *Star Rating and Daily Intake Guide* (37%) was present.

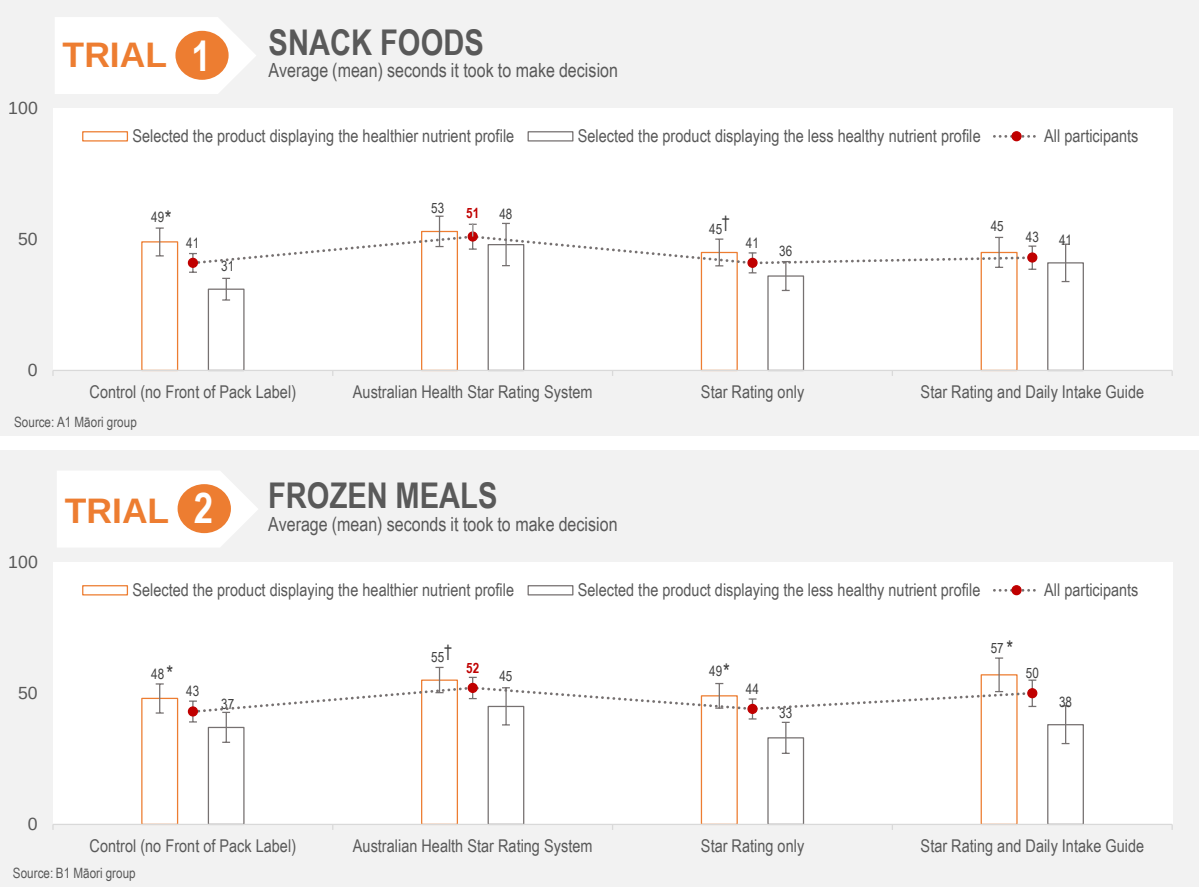
In Trial 2 the presence of FOPLs did not have a statistically significant influence over perceptions that there was 'hardly any' difference in the nutritional value of each product. However, when the *Star Rating and Daily Intake Guide* were present, participants were less likely than those in the *Star Rating only* condition to perceive there was 'hardly any' difference in nutritional value between the two products (28%, compared to 40% in the

Star Rating only condition), and more likely to perceive there was a moderate difference (64%, compared to 46% in the *Star Rating only* condition).

Time taken by consumers to make decisions

Using our online survey software we were able to measure the total time taken by each participant to read each question, examine the product images, and decide which product was healthier. The average time it took participants in each condition is shown below. The line shows the average time taken for all participants in each condition, and the bars show the average time taken by those who selected the product with the healthier and less healthy nutrient profile.[3]

In both control conditions, when no FOPL was displayed, the time taken by Māori participants to reach a decision did not differ significantly from participants in the General population group.



Note: Error bars display the 90% confidence interval for each mean. Means shown in red are significantly higher than the mean in the control condition at a 10% alpha level; * and † indicate significant differences compared to those who selected the product in that condition displaying the less healthy nutrient profile (at the 5% (*) or 10% (†) alpha level).

Compared to the control condition, Māori participants took longer to reach their decision when the *Australian Health Start Rating System* FOPL was displayed on the product. There were no other statistically significant differences between the control and experimental conditions when it came to the overall time taken.

As can be seen in the chart, those who correctly selected the product displaying the healthier nutrient profile tended to take longer to reach their decision than those who incorrectly selected the less healthy profile. These differences, however, are less evident in the snack foods trial (Trial 1). This may be because, relative to the frozen meals trial (Trial 2), the difference in overall nutritional value was less obvious, and participants in

[3] In an online experiment it is possible for a participant to become distracted in some way while the experiment is in progress. To mitigate the influence that extreme times had on the mean time calculation, we excluded all times above the 95th percentile.

Trial 1 were more likely to be considering the product ingredients in addition to the nutrition information displayed on the FOPL and NIP.

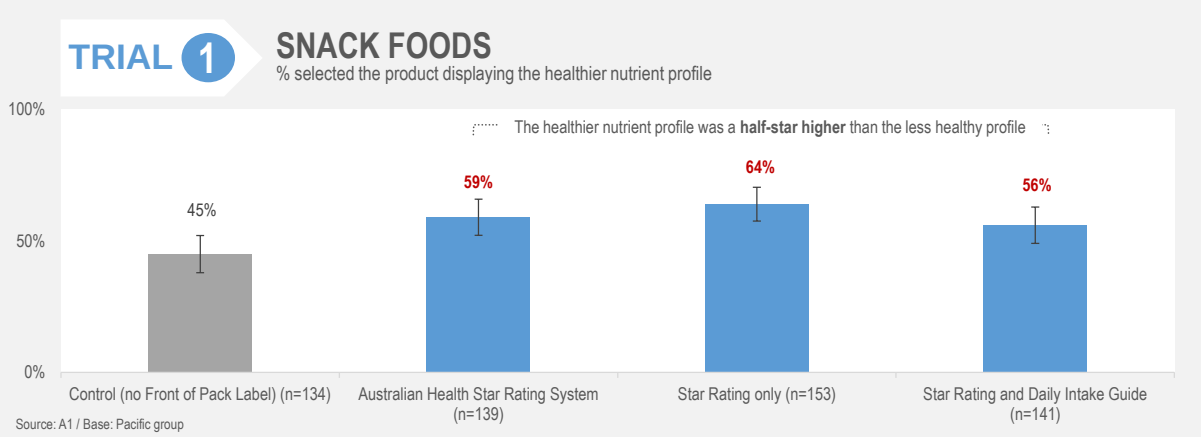
Pacific group results

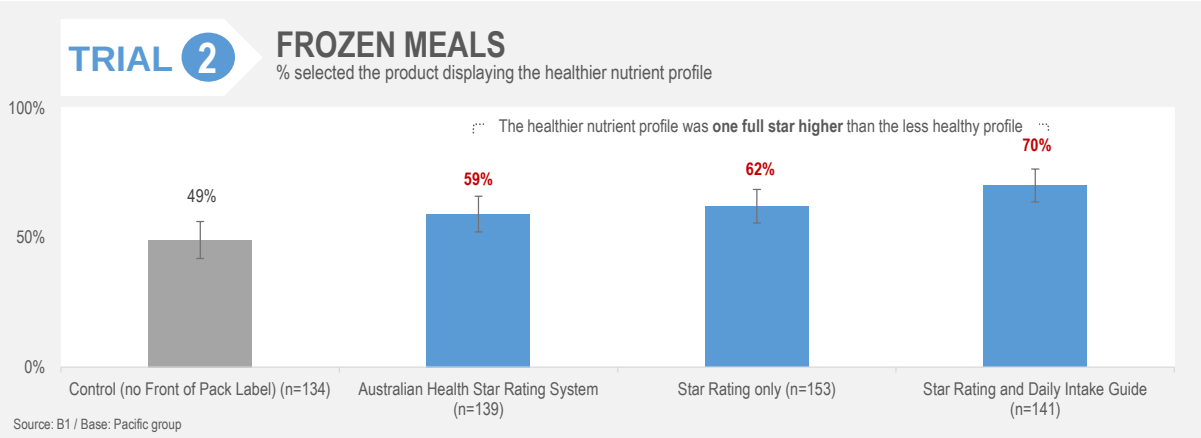
Consumers' ability to use FOPLs

The charts below display the proportion of Pacific participants in each condition who correctly selected the product displaying the healthier nutrient profile.

In the control condition the only nutrition information was provided on NIP, displayed on the rear of the product. In this condition close to half of the Pacific participants selected the healthier product in Trial 1 (45%) and Trial 2 (49%).

In Trial 1, the snack foods trial, those in the Pacific group were less likely than those in the General population group to select the product displaying the healthier nutrient profile (45%, compared to 56% in the General population group). There was no difference between the Pacific and General population groups in Trial 2, the frozen meals trial.





Note: Error bars display the 90% confidence interval for each result. Percentages shown in red are significantly higher than the percentage in the control condition at the 90% confidence level.

Do the FOPLs significantly improve Pacific consumers' ability to select healthier food products?

All FOPLs significantly improved Pacific consumers' ability to select the product displaying the healthier nutrient profile in both Trials 1 and 2.

The proportion of participants who selected the product displaying the healthier nutrient profile in each experimental trial was compared to the proportion who did so in the control condition.

- Within Trial 1, the *Australian Health Star Rating System*, the *Star Rating only*, and the *Star Rating and Daily Intake Guide* significantly improved Pacific participants' ability to select the healthier product. In this trial the healthier and less healthy products differed by a half-star on interpretive Health Star Rating.
- Within Trial 2, the *Australian Health Star Rating System*, the *Star Rating only*, and the *Star Rating and Daily Intake Guide* significantly improved Pacific participants' ability to select the healthier product. In this trial the healthier and less healthy products differed by a full star on interpretive Health Star Rating.

Which FOPL is most effective for assisting consumers to select healthier food products?

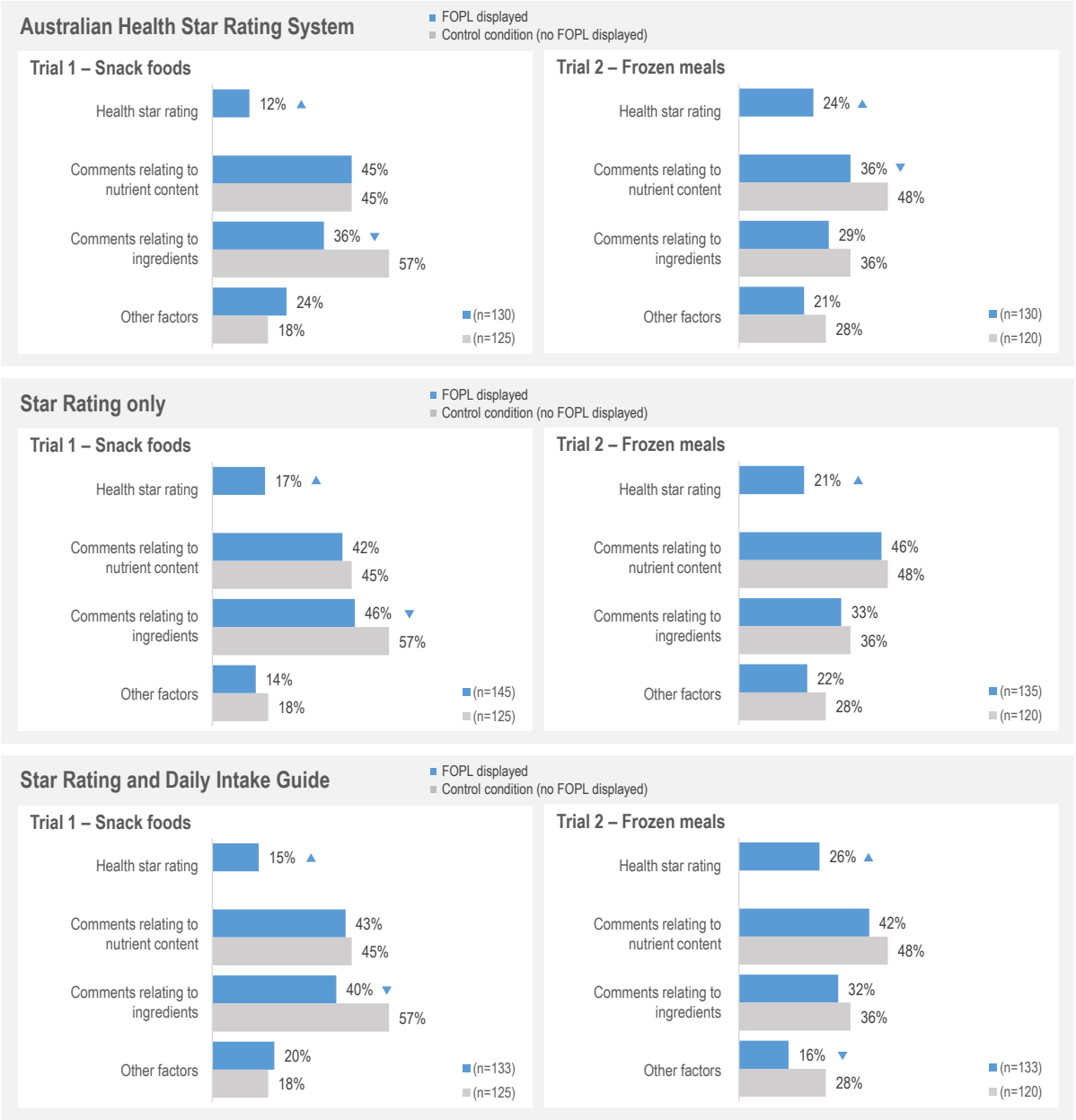
Statistically, all FOPLs performed equally well in Trial 1. In Trial 2, *Star Rating and Daily Intake Guide* FOPL was the *most* effective, although all FOPLs in this trial significantly improved consumers' ability to select healthier food products when compared to the control condition.

The proportion of participants who selected the product displaying the healthier nutrient profile was compared across each experimental condition.

- In Trial 1 there were no significant differences between FOPLs.
- In Trial 2 the *Star Rating and Daily Intake Guide* performed significantly better than the *Australian Health Star Rating System* FOPL. There were no other significant differences.

The factors considered when making healthy food choices

Without any prompting with possible answers, we asked all participants to give us their reasons for deciding one product was healthier than the other. The reasons given were detailed and diverse. A summary of the results for Pacific participants is displayed in the chart below. Detailed results are shown in Appendix F.



Source: A2 and B2 / Base: Pacific participants able to make a decision about which product was healthier. Note: Arrows indicate significant differences from the control condition at the 90% confidence level.

Deciding factors within the snack foods and frozen meals categories

By examining results in the control conditions we can better understand some of the factors that influence participants' health-related food decisions. In the frozen foods trial the results for the Pacific group are similar to those for the Māori and General population groups. That is, *nutrient* information was the primary factor that influenced Pacific participants' decisions about which product was healthier in the frozen meals trial.

However in the snack foods trial the *ingredients*, shown on the front of the package and listed on the rear, played an even more important role in the decisions of Pacific people, with a small majority of Pacific people stating that the ingredients influenced their decision (57%). This is higher than the 49% of Māori participants and 45% of participants in the General population group who said the ingredients influenced their decision.

What differences did the FOPLs make?

In the frozen meals trial (Trial 2), between one fifth and one quarter of Pacific participants in the FOPL conditions said the Health Star Rating influenced their decision about which product was healthier. There were two other differences between the FOPL conditions and the control condition in Trial 2, but they appear to be fairly isolated.[4]

In the snack foods trial (Trial 1), the presence of an FOPL significantly reduced reliance on the product ingredients for deciding which of the two products was healthier. This was consistent across all three FOPLs tested.

What were the bases for incorrect decisions?

To understand why participants incorrectly selected products with the less healthy nutrient profile, we compared the reasons they gave against those given by participants who made the correct choice. Results are shown in the table on the following page. The findings show that Pacific participants who made an incorrect choice:

- Tended not to base their decisions on the Health Star Rating (ie, either these respondents did not see the rating, they did not know how to interpret it, or they did not believe the rating to be correct).
- Were generally more likely than those who selected the correct product to base their decision on product ingredients (ie, the wheat, oats, cheese or meat contained in the product).
- Were generally less likely than those who selected the correct product to base their decision the on nutrient information (ie, the amount of fat, protein, sugar, energy sodium, etc).

[4] The presence of the *Australian Health Star Rating System* appeared to reduce consideration of nutrient content in the frozen meals trial, and the presence of the *Star Rating and Daily Intake Guide* appeared to reduce attention on 'other factors' in this trial (for example, what the product looked like and pre-conceptions of the product).

Factors that influenced incorrect versus correct decisions for the Pacific group

	Control group (no FOPL shown)		Australian Health Star Rating System		Rating Star only		Rating Star and Daily Intake Guide	
	Correct %	Incorrect %	Correct %	Incorrect %	Correct %	Incorrect %	Correct %	Incorrect %
Trial 1 – Snack foods								
Health Star Rating	-	-	17	2	23	2	23	4
Comments relating to nutrient content	47	44	46	42	45	36	45	41
Comments relating to ingredients	55	60	33	42	39	60	38	44
Other factors	18	18	22	27	13	17	22	18
Base (n=)	61	64	82	48	98	47	78	55
Trial 2 – Frozen meals								
Health Star Rating	-	-	35	4	25	10	34	3
Comments relating to nutrient content	57	38	39	31	46	45	49	23
Comments relating to ingredients	28	46	26	35	29	40	26	49
Other factors	24	34	13	33	17	35	14	23
Base (n=)	64	56	82	48	95	40	98	35

Source: A2 and B2

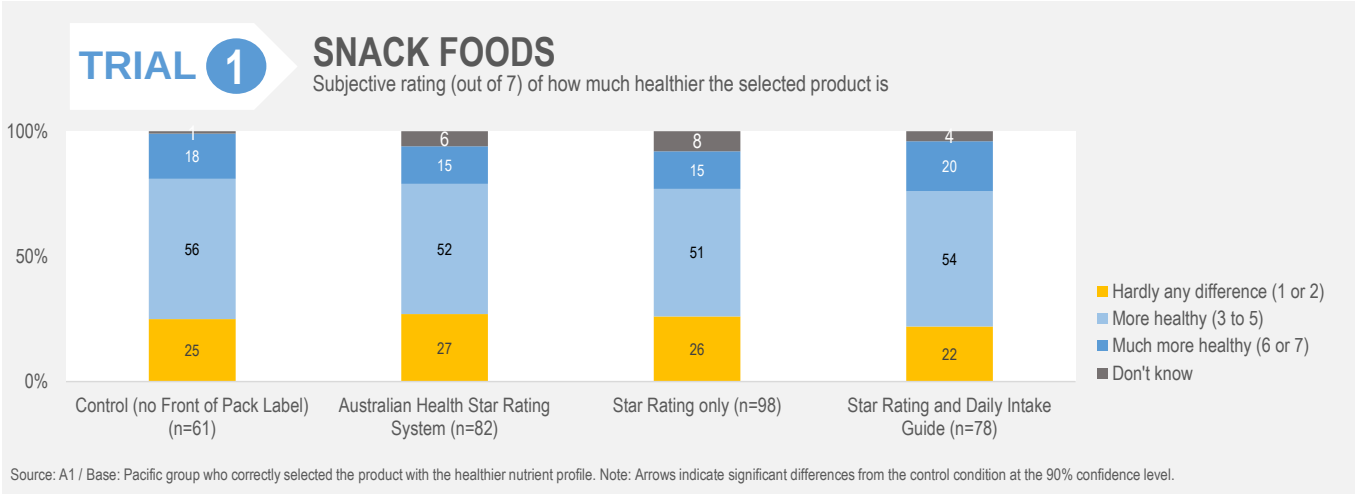
Base: Those in the Pacific group who correctly selected the product with the healthier nutrient profile, or incorrectly selected the product with the less healthy nutrient profile.

Note: 'Incorrect' percentages shown in red are significantly lower than the corresponding 'correct' percentage in the same condition at the 90% confidence level. 'Incorrect' percentages shown in green are significantly higher than the corresponding 'correct' percentage in the same condition at the 90% confidence level.

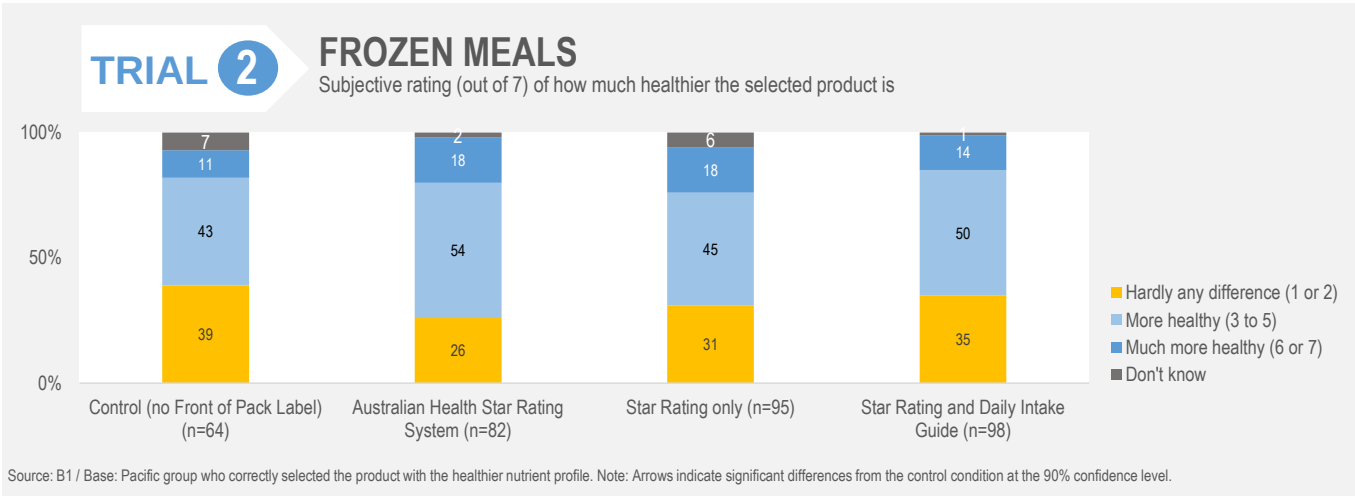
Subjective comparisons of healthiness

Following each trial we asked participants to tell us how much healthier their selected product was compared to the product they did not select. Participants could answer on a 7-point scale from 1 (there is hardly any difference when it comes to how healthy they are) to 7 (their selected product was much healthier).

Results for Pacific participants are shown in the chart below. Please note that for the purpose of this analysis, we have excluded results for those who did not select the product with the healthier nutrient profile.



Source: A1 / Base: Pacific group who correctly selected the product with the healthier nutrient profile. Note: Arrows indicate significant differences from the control condition at the 90% confidence level.



Source: B1 / Base: Pacific group who correctly selected the product with the healthier nutrient profile. Note: Arrows indicate significant differences from the control condition at the 90% confidence level.

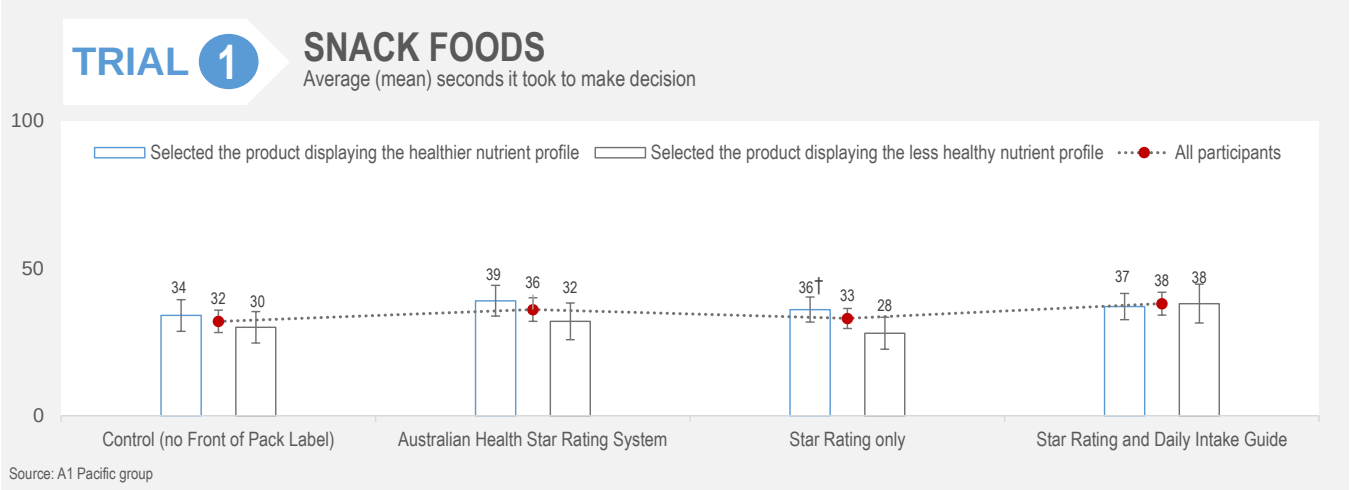
Among Pacific participants there were no significant differences between conditions when it came to the subjective ratings of the nutritional value of the products.

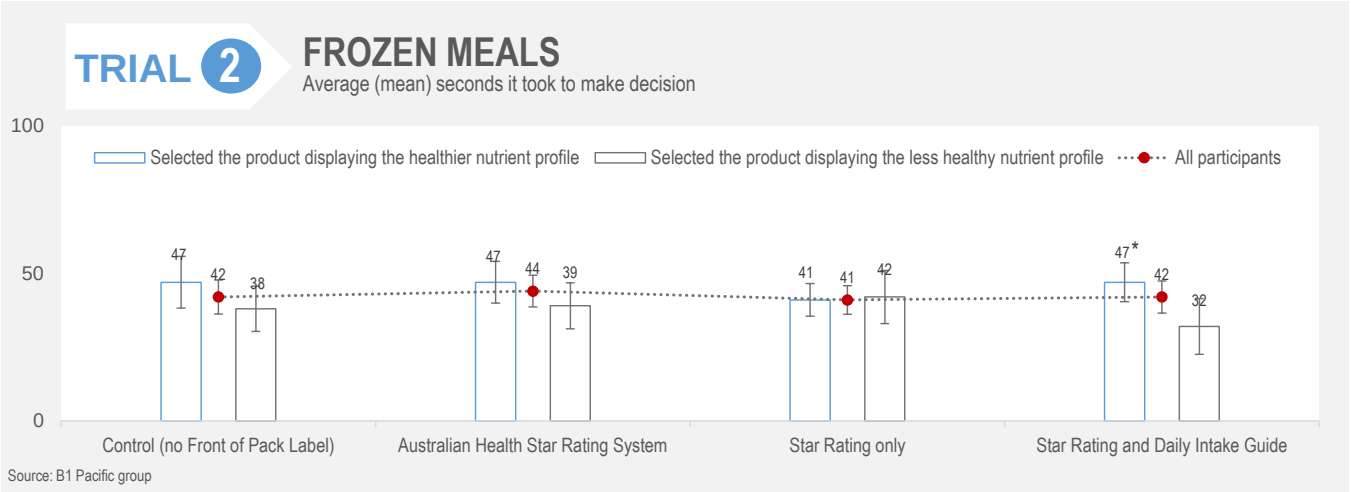
Time taken by consumers to make decisions

Using our online survey software we were able to measure the total time taken by each participant to read each question, examine the product images, and decide which product was healthier. The average time it took participants in each condition is shown below. The line shows the average time taken for all participants in each condition, and the bars show the average time taken by those who selected the product with the healthier and less healthy nutrient profile.[5]

In the snack foods (Trial 1) control condition, when no FOPL was displayed, those in the Pacific group took significantly less time (average = 32 seconds) to reach their decision than participants in either the General population (average = 38 seconds) or Māori groups (average = 41 seconds). There was no difference between groups for the Trial 2 control condition.

The difference for Trial 1 may reflect the greater role that the product ingredients played in the decisions made by Pacific participants. Relative to the time it takes to consider the nutrition panels provided on the products, we suspect it takes less time to reach a decision based on existing knowledge and assumptions about the health value of ingredients.





Note: Error bars display the 90% confidence interval for each mean. Means shown in red are significantly higher than the mean in the control condition at a 10% alpha level; * and † indicate significant differences compared to those who selected the product in that condition displaying the less healthy nutrient profile (at the 5% (*) or 10% (†) alpha level).

Overall there were no statistically significant differences in the average time taken by Pacific participants to reach a decision in each condition.

[5] In an online experiment it is possible for a participant to become distracted in some way while the experiment is in progress. To mitigate the influence that extreme times had on the mean time calculation, we excluded all times above the 95th percentile.

As can be seen in the chart in the previous page, although only two of the differences were large enough to reach the threshold for statistical significance, those who correctly selected the product displaying healthier nutrient profile tended to take longer to reach their decision than those who incorrectly selected the less healthy profile.

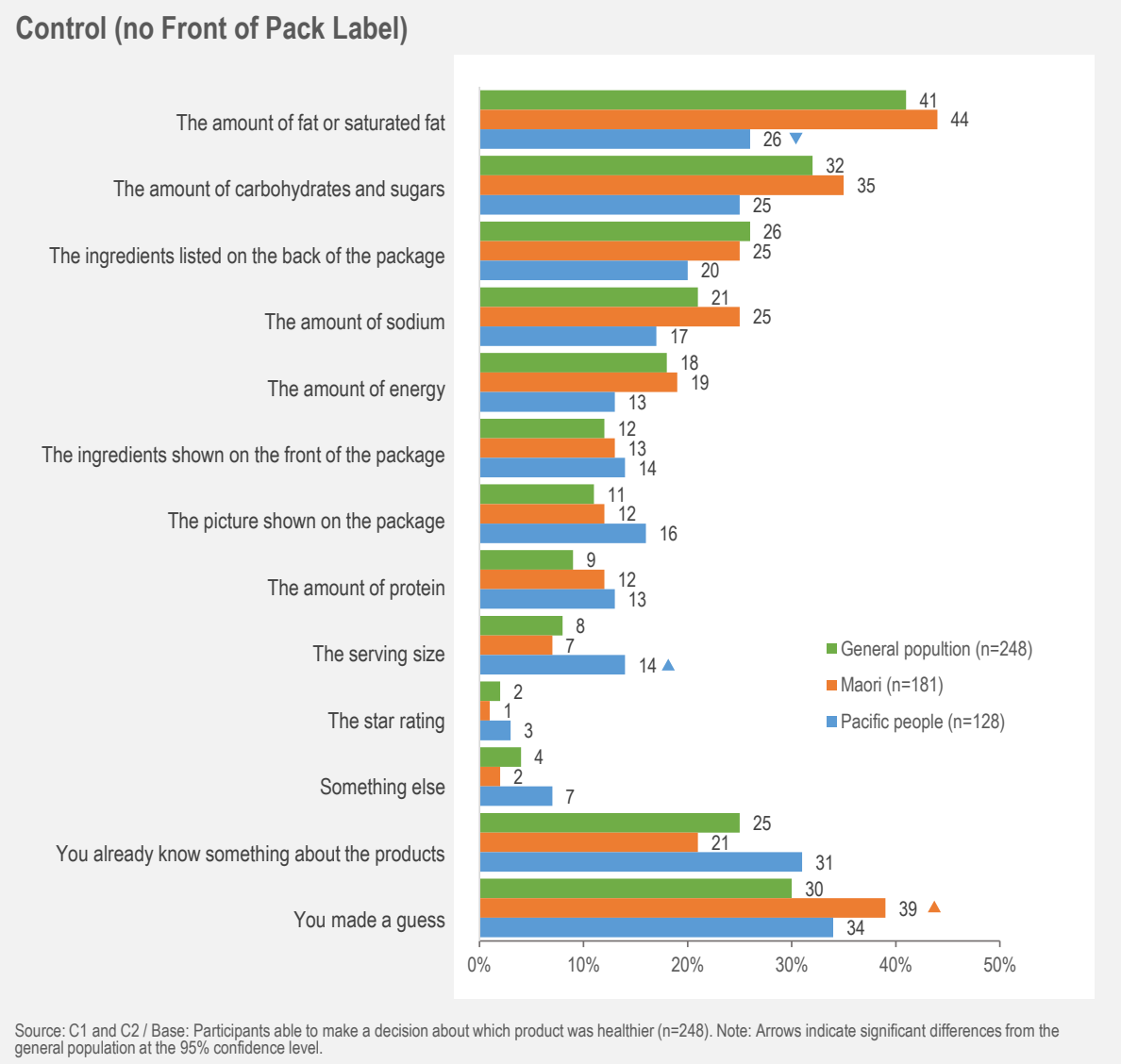
Similar to the General population and Māori groups, these differences are less evident in the snack foods trial (Trial 1) than the frozen meals trial (Trial 2). Again, this may be because relative to the frozen meals trial (Trial 2), the difference in overall nutritional value was less obvious, and participants in Trial 1 were more likely to be considering product ingredients in addition to the nutrition information displayed on the FOPL and NIP.

The importance of product features in health-based decisions

In addition to collecting participants' detailed reasons for deciding which product was healthier within each trial, following both trials we presented a list of packaging features to participants, and asked them to select the features that helped them make their decisions. We asked this question to:

a) gain some understanding of what information is imported to participants in each group
b) determine what influence FOPLs had on the importance of this information.

The chart below displays the results for each group in the control condition, when no FOPL was displayed on the products.



Source: C1 and C2 / Base: Participants able to make a decision about which product was healthier (n=248). Note: Arrows indicate significant differences from the general population at the 95% confidence level.

What information is important to participants in each group?

Results for the General population group and Māori group are similar. The most common factors considered were the fat (41% for the General population and 44% for Māori) and sugar content (32% for the General population and 35% for Māori),

followed by the ingredients lists on the back of the package (26% for the General population and 25% for Māori), and the sodium content (21% for the General population and 25% for Māori).

The results for the Pacific group differed quite markedly. Although the fat content was still the most commonly mentioned consideration, relative to the General population group fewer participants said the fat content helped them decide between products (26% compared to 41% in the General population group). In addition, fewer Pacific group participants indicated that the sugar content helped them decide (25%, compared to 32% in the General population group), although this difference was not statistically significant. Pacific group participants were much more likely than those in the General population group to say that the serving size helped them decide between products (14%, compared to 8% in the General population group).

What influence do FOPLs have on the importance placed on product features?

The three charts on the following two pages display results for participants in the conditions where a FOPL was displayed on the product. The arrows in the charts highlight statistically significant differences compared to the control condition, where no FOPL was displayed.

Approximately two-thirds (28% to 37%) of participants in each group, and in each of the FOPL conditions, indicated that the interpretive Health Star Rating helped them to decide which product was healthier. This places the Health Star Rating amongst the top three factors, next to the fat and sugar content, that assisted participants in all groups.

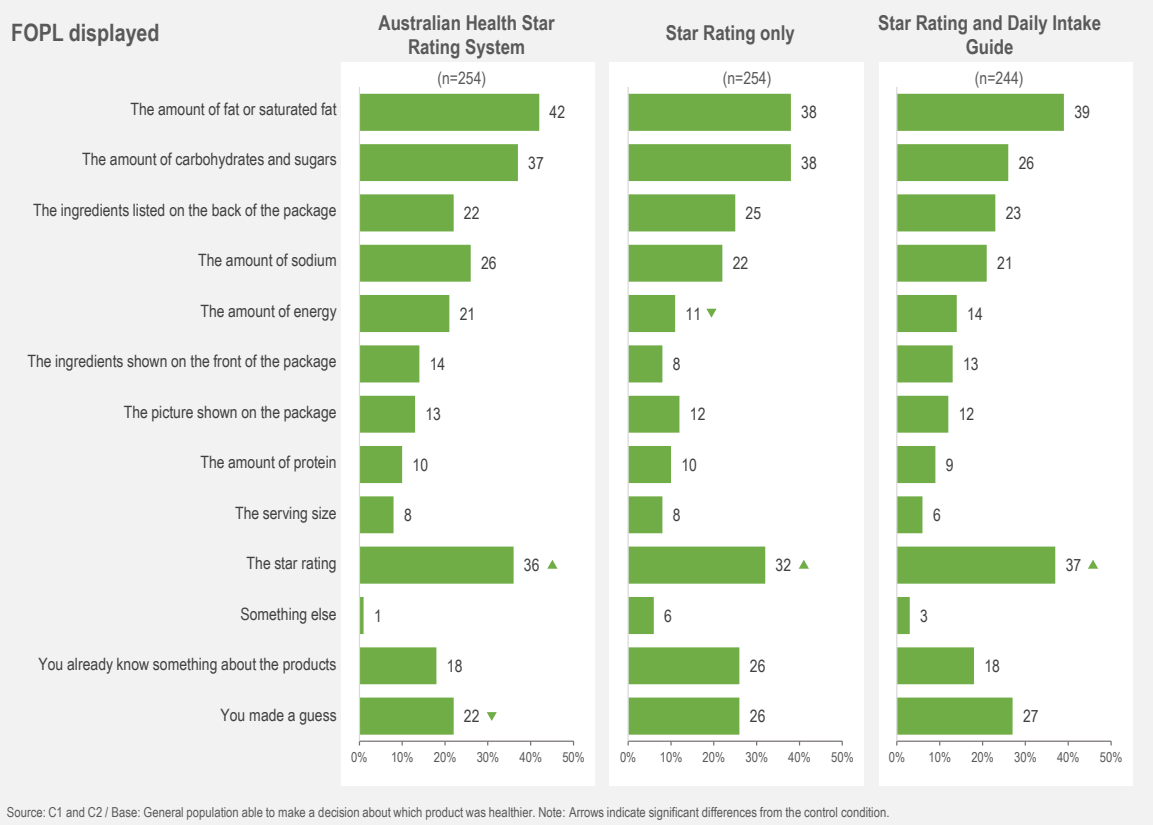
Other significant differences from the control condition are generally fairly isolated, with no easily identifiable commonalities among conditions for groups.

One exception is that the FOPLs appear to reduce reliance on either prior knowledge of the products or the likelihood that participants 'made a guess' about which product was healthier.

That is:

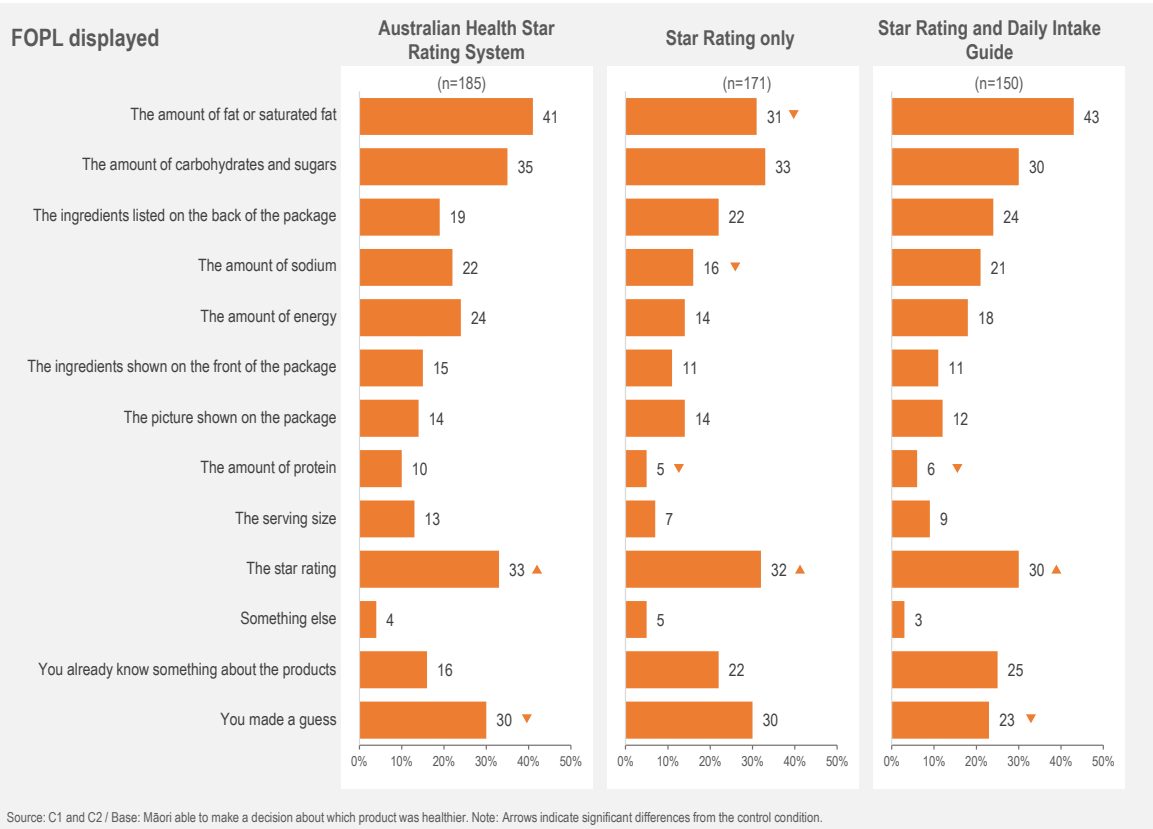
- Fewer participants in the General population *Australian Health Star Rating System* condition 'made a guess' (22%, compared to 30% in the control group).
- Fewer participants in the Māori group *Australian Health Star Rating System* condition 'made a guess' (30%, compared to 39% in the control group).
- Fewer participants in the Pacific group *Star Rating and Daily Intake Guide* condition 'made a guess' (24%, compared to 34% in the control group).
- Fewer participants in the Pacific group *Star Rating only* (18%, compared to 31% in the control group) and *Star Rating and Daily Intake Guide* (21%, compared to 31% in the control group) conditions said that they already knew something about the products.

General population group comparisons to the control condition



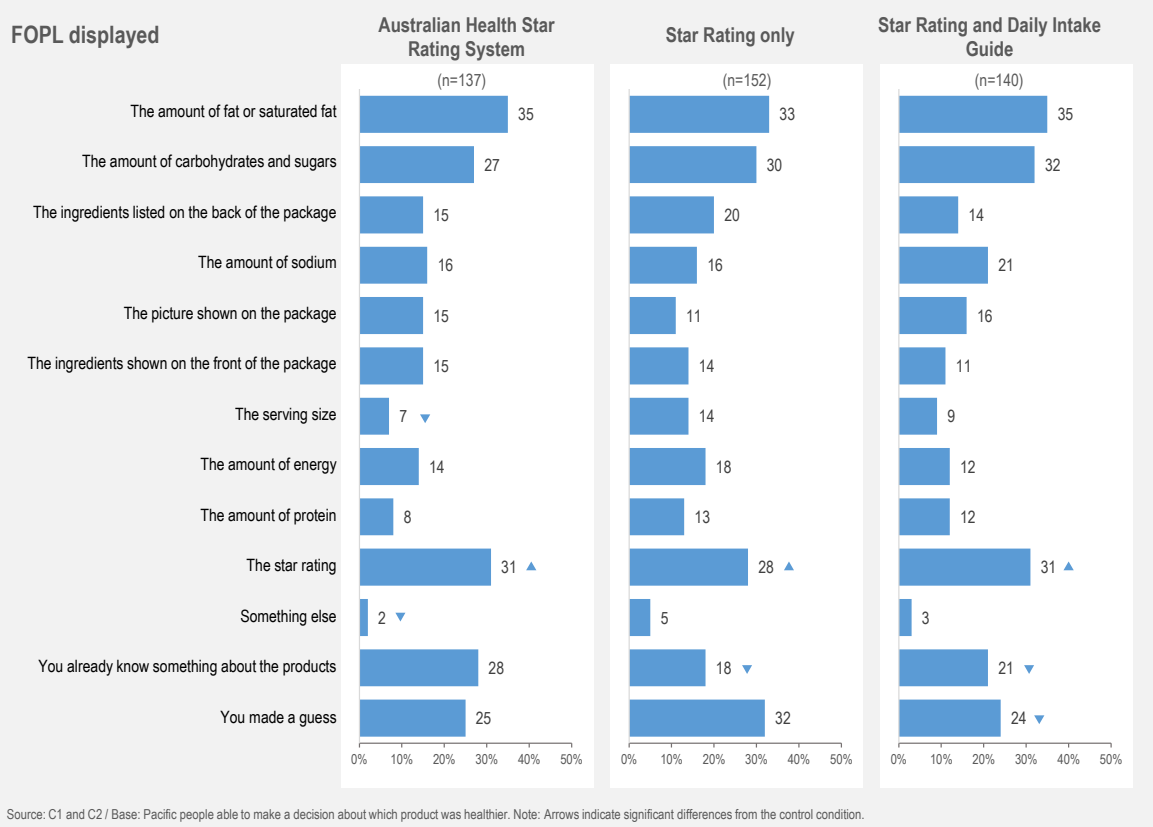
Source: C1 and C2 / Base: General population able to make a decision about which product was healthier. Note: Arrows indicate significant differences from the control condition.

Māori group comparisons to the control condition



Source: C1 and C2 / Base: Māori able to make a decision about which product was healthier. Note: Arrows indicate significant differences from the control condition.

Pacific group comparisons to the control condition



Source: C1 and C2 / Base: Pacific people able to make a decision about which product was healthier. Note: Arrows indicate significant differences from the control condition.

Appendix A: Detailed methodology

To test the effectiveness of these systems we carried out a controlled experiment.

Participants were randomly assigned to one of four independent conditions. In each condition participants were shown two pairs of products, and they were asked to select which was healthier. Participants were able to enlarge the products, and click 'flip' to see the rear of a product. The only difference between each condition was the nutrition information provided on the products.

The experiment was carried out online. An online methodology was preferred for this research due to a need to display a total 40 'product x FOPL and total weight x rear Nutrition Information Panels (NIP)' variants for the four different trials and conditions. An online methodology also offered us the ability to easily rotate the presentation of trials and product pairs, and to randomise the screen positions of each product when presented to participants (ie, to randomise which product was shown on the left and right of the screen).

Participants

The experiment was carried out among three groups of participants recruited from online panels and via street intercept. Full sample profiles can be found in Appendix B.

General population group

The General population group was randomly drawn from Colmar Brunton's online panel[6] in proportion to Statistics New Zealand age x gender x region population counts for New Zealanders aged 18 years and over. The final data has been weighted by region (Auckland, Wellington, Canterbury, other North Island, other South Island), age (18 to 34 years, 35 to 64 years, and 65 years and over), gender, and ethnic group (Māori, Pacific or Asian).

This sampling and weighting approach is intended to provide results that are representative of the target population. Not all households have internet access in New Zealand (80 percent of households had internet access in 2012[7]), and online panels do not include every New Zealand household, so the survey cannot be said to be 'truly representative' of all groups. For example, online panel surveys tend to under-represent those who identify as Māori or with Pacific ethnic groups to some extent. Having said this, an important feature of this experiment was the random assignment of respondents to each of four independent conditions (this is discussed later in this section), so any remaining sample skews (after weighting) were effectively 'evened out' across each condition. We are confident that the methodology provides a robust test of the FOPL labels.

In total there were 1,022 participants recruited from our online panel for the General population group.

Māori and Pacific groups

It can be challenging to recruit large numbers of Māori and Pacific peoples for online research because these groups are small relative to the size of the population, and they are less likely to be on an online panel. We know the ethnic background of portions of our panellists, so we were able to specifically target Māori and Pacific peoples with invitations to take part in the

[6] Colmar Brunton maintains an online panel of more than 250,000 New Zealanders, recruited from both offline and online sources. Our panel meets or exceeds all twenty-six of the global best practice standards outlined by ESOMAR for panel development and management. Unlike many other online panels used in the market research industry, our panel is used for the purposes of independent research only. This panel cannot be used for any other purpose, such as sales and marketing.

[7] *Household use of information and communication technology survey*, 2012. Statistics New Zealand.

research. Because identified Māori and Pacific people represent a smaller proportion of our overall panel, we could not draw the samples in proportion to Statistics New Zealand population counts, and so the final sample significantly over-represents Māori and Pacific women. We did not apply any demographic weighting to the Māori and Pacific data.

We were able to achieve the recruitment target for Māori participants solely through our online panel. For the Pacific group, we also recruited through the Research Now online panel and via street intercept. At the intercept stage, recruited participants completed the experiment in a nearby internet café that was hired exclusively between the hours of 9am to 3pm on Saturday 16 November 2013.

In total we recruited 696 participants for the Māori group from our online panel, and 567 for the Pacific group from our online panel (n=232), the Research Now online panel (n=194), and via street intercept (n=141).

Incentives

Panellist received 'panel points' if they qualified and completed the survey. Those recruited via street intercept received an incentive to value of $10 thank them for their time.

Procedure

Introduction to participants

All participants were invited to take part in a survey about food choices. Prior to seeing any stimuli we explained to participants that we were going to show them some products and ask some questions about them. At that point we also explained that they could click 'enlarge' to get a closer look at a product or 'flip' to see the back of a product.

Overall the experiment took participants approximately five and a half minutes to complete. The full online questionnaire script can be found in Appendix C.

Experimental design

Participants in each group were randomly assigned to one of four conditions. There were three independent experimental conditions and an independent control condition.

As displayed in the diagram on the following page, each condition contained two trials. Trial 1 presented the participant with two snack food products (wheat biscuits and snack bars) and Trial 2 presented participants with two frozen meal products (a family sized pizza and family sized pie).

- The presentation order of Trial 1 and Trial 2 was rotated by the online survey software, so that approximately half of the participants in each group (ie, General population, Māori, and Pacific groups) saw Trial 1 first and half saw Trial 2 first.
- Within each trial participants were asked to imagine they were shopping for a friend or family member who is generally quite healthy, and to select which product they thought was healthier.
- Within each trial the presentation of the products on screen was randomised by the online survey software, so no product was always shown on the left or right of the screen.
- Within each trial the online survey software rotated which of the two products had the healthier nutrient profile (for example, in Trial 1 approximately half of all participants saw the snack bars with the healthier nutrient profile and half saw the wheat biscuits with the healthier nutrient profile). Before the analysis stage a weighting factor (no greater than 0.75/1.33) was applied to ensure the proportion of respondents who saw all 'product x nutrient profile combinations', in each condition equalled exactly 50%. This weight removes possible bias due to any tendency for participants to see particular 'product x nutrient profile' combinations as more or less healthy.

The only difference between each condition was the nutrition information provided on the products.

- **Control condition** – In the control condition, each of the product images included only the standard Nutrition Information Panel (NIP) that is typically displayed on the rear of products.
- **Three experimental conditions** – In each of the experimental conditions, in addition to the standard NIP that is typically displayed on the rear of products, each product also display a FOPL. Each experimental condition tested one of the three FOPL systems described in the *Background and Objectives Section*.

Primary dependent variable

The nutrition information on a package is one of a range of package elements that consumers can use to decide whether one product is healthier than another. In theory, a FOPL should increase the salience of the nutrition value of the product among these other package elements, and the interpretive component of the FOPL should assist consumers to correctly interpret the nutritional value.

Essentially, if an FOPL assists consumers to correctly identify a healthier food product, we would expect to see a higher proportion of participants correctly selecting the product with the healthier nutrient profile when a FOPL is present than when it is not.

Stimuli

Product images

Our in-house creative team designed realistic product package images for this experiment. In this way, the experiment tested the effectiveness of the FOPLs within the context of other information that is typically found on a product's packaging, such as images of the product, serving suggestions, ingredient lists, and instructions for preparation. As mentioned above, within each trial we rotated which product displayed the 'healthier' and 'less healthy' nutrition information.

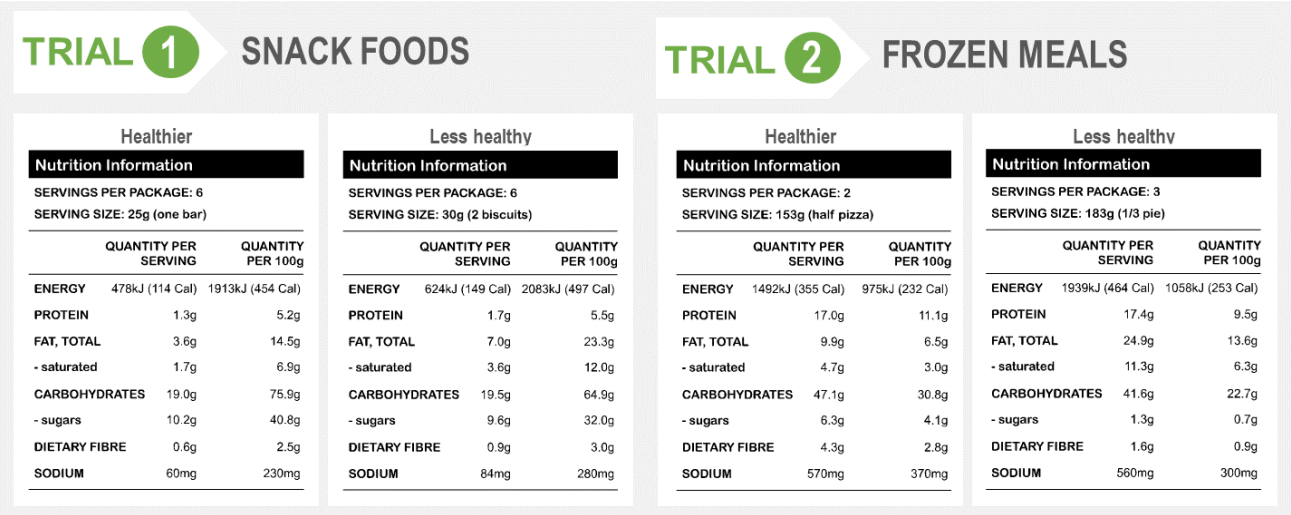
The product images were based on those found in New Zealand supermarkets, but the colours and other aspects of the packaging were changed. We used fictitious brands to overcome any pre-conceptions about the 'healthiness' of particular brands, and we did not display a product price.

The snack foods and frozen meals categories were chosen for this experiment by MPI because they are food categories that a large proportion of the population, and particularly priority populations, buy and consume. The individual food products were chosen as they represented realistic choice comparisons that consumers might be faced with within each of those categories.

Product images can be found in Appendix C

Nutrition information provided on each product

MPI supplied us with two pairs of NIPs. MPI verified that within each pair of profiles, one profile was healthier than the other. The four NIPs, displayed on the rear of each product, are shown below.



TRIAL 1 SNACK FOODS

Healthier

Nutrition Information		
SERVINGS PER PACKAGE: 6		
SERVING SIZE: 25g (one bar)		
	QUANTITY PER SERVING	QUANTITY PER 100g
ENERGY	478kJ (114 Cal)	1913kJ (454 Cal)
PROTEIN	1.3g	5.2g
FAT, TOTAL	3.6g	14.5g
- saturated	1.7g	6.9g
CARBOHYDRATES	19.0g	75.9g
- sugars	10.2g	40.8g
DIETARY FIBRE	0.6g	2.5g
SODIUM	60mg	230mg

Less healthy

Nutrition Information		
SERVINGS PER PACKAGE: 6		
SERVING SIZE: 30g (2 biscuits)		
	QUANTITY PER SERVING	QUANTITY PER 100g
ENERGY	624kJ (149 Cal)	2083kJ (497 Cal)
PROTEIN	1.7g	5.5g
FAT, TOTAL	7.0g	23.3g
- saturated	3.6g	12.0g
CARBOHYDRATES	19.5g	64.9g
- sugars	9.6g	32.0g
DIETARY FIBRE	0.9g	3.0g
SODIUM	84mg	280mg

TRIAL 2 FROZEN MEALS

Healthier

Nutrition Information		
SERVINGS PER PACKAGE: 2		
SERVING SIZE: 153g (half pizza)		
	QUANTITY PER SERVING	QUANTITY PER 100g
ENERGY	1492kJ (355 Cal)	975kJ (232 Cal)
PROTEIN	17.0g	11.1g
FAT, TOTAL	9.9g	6.5g
- saturated	4.7g	3.0g
CARBOHYDRATES	47.1g	30.8g
- sugars	6.3g	4.1g
DIETARY FIBRE	4.3g	2.8g
SODIUM	570mg	370mg

Less healthy

Nutrition Information		
SERVINGS PER PACKAGE: 3		
SERVING SIZE: 183g (1/3 pie)		
	QUANTITY PER SERVING	QUANTITY PER 100g
ENERGY	1939kJ (464 Cal)	1058kJ (253 Cal)
PROTEIN	17.4g	9.5g
FAT, TOTAL	24.9g	13.6g
- saturated	11.3g	6.3g
CARBOHYDRATES	41.6g	22.7g
- sugars	1.3g	0.7g
DIETARY FIBRE	1.6g	0.9g
SODIUM	560mg	300mg

The difference in the overall nutritional value of each product was deliberately kept fairly small. This was done because the purpose of the FOPLs is to assist consumers to make choices they are struggling with, rather than reinforce more obvious health-based decisions. Having said this, the difference in nutrient content was more substantial in Trial 2 than in Trial 1.

Information displayed on FOPLs

The interpretive Health Star Rating and nutrient information for the three FOPLs was also supplied to us by MPI, and was calculated based on the above NIPs. The interpretive Health Star Rating differed by one-half star in Trial 1 (snack foods) and one full star in Trial 2 (frozen meals). All FOPL images are displayed in Appendix D.

Weights and serving size descriptors displayed on products

The serving size descriptor (eg, 'one bar' or '2 biscuits') on the NIP was adjusted to match the product the NIP was displayed upon. The product weight, displayed on the front of each product, matched the 'serving per package x survey size weight' displayed in the NIP. For example, if the package contained six servings of 25g each, the weight displayed on the front of the product was 150g.

Appendix B: Sample profiles

General population group profiles

	Total %	Control %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Gender					
Male	48	51	45	48	48
Female	52	49	55	52	52
Age group					
18 to 34 years	30	32	28	30	31
35 to 64 years	53	52	56	52	52
65 years or more	17	16	16	18	17
Household shopper status					
Sole or joint responsibility	97	97	97	96	98
Not a household shopper	3	3	3	4	2
Ethnic group					
New Zealand European	72	74	74	68	71
New Zealand Māori	13	14	15	12	12
Pacific Island	6	2	5	12	7
Asian	9	8	8	11	9
Other European	11	12	12	9	10
Other	2	1	1	3	2
Region					
Northland Region	4	3	4	5	4
Auckland Region	32	32	32	31	33
Waikato Region	7	9	6	5	8
Bay of Plenty Region	8	11	7	7	8
Gisborne Region	1	1	2	1	1
Hawke's Bay Region	4	4	5	4	4
Taranaki Region	2	1	1	2	4
Manawatu-Wanganui Region	4	4	5	3	6
Wellington Region	11	11	12	13	9
Tasman Region	1	1	1	2	-
Nelson Region	-	-	-	-	1
Marlborough Region	1	1	-	1	-
West Coast Region	1	1	1	1	-
Canterbury Region	13	12	14	14	14
Otago Region	7	8	6	11	3
Southland Region	2	1	2	1	4
Annual household income					
Up to $30,000	13	13	11	16	13
$30,000 to $70,000	30	29	32	27	31
$70,001 to $100,000	18	19	20	17	17
$100,001 up to $120,000	11	11	14	9	10
More than $120,000	11	10	9	14	12
Unsure	3	3	2	2	3
Prefer not to say	14	14	12	15	14
Base (n=)	1,022	255	256	256	255

Source: S2, S4, D3, S3, S1, and D4/D5
Base: All those in the General population group

Māori group profiles

	Total %	Control %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Gender					
Male	16	16	15	16	16
Female	84	84	85	84	84
Age group					
18 to 34 years	24	22	26	23	24
35 to 64 years	69	72	66	71	66
65 years or more	8	6	8	7	10
Household shopper status					
Sole or joint responsibility	98	98	97	98	98
Not a household shopper	2	2	3	2	2
Ethnic group					
New Zealand European	62	65	59	65	58
New Zealand Māori	100	100	100	100	100
Pacific Island	3	2	4	4	3
Asian	1	1	1	1	2
Other European	2	2	2	2	1
Other	-	1	-	-	-
Region					
Northland Region	6	4	5	9	7
Auckland Region	21	18	28	19	19
Waikato Region	12	13	11	12	14
Bay of Plenty Region	11	13	10	12	8
Gisborne Region	2	2	3	2	2
Hawke's Bay Region	5	6	3	5	4
Taranaki Region	3	4	2	1	3
Manawatu-Wanganui Region	7	5	8	7	8
Wellington Region	12	10	10	14	13
Tasman Region	1	2	1	2	-
Nelson Region	1	2	1	2	1
Marlborough Region	1	1	1	1	1
West Coast Region	1	1	1	-	1
Canterbury Region	9	5	10	9	12
Otago Region	6	8	6	5	7
Southland Region	2	3	2	2	2
Annual household income					
Up to $30,000	10	9	9	12	9
$30,000 to $70,000	33	32	34	33	34
$70,001 to $100,000	21	21	20	26	18
$100,001 up to $120,000	10	9	11	10	11
More than $120,000	13	14	12	8	15
Unsure	2	3	3	1	1
Prefer not to say	11	11	11	10	12
Base (n=)	696	186	186	172	152

Source: S2, S4, D3, S3, S1, and D4/D5
Base: All those in the Māori group

Pacific group profiles

	Total %	Control %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Gender					
Male	32	26	32	29	40
Female	68	74	68	71	60
Age group					
18 to 34 years	42	42	41	40	46
35 to 64 years	55	56	55	56	52
65 years or more	3	2	4	3	2
Household shopper status					
Sole or joint responsibility	97	97	94	99	97
Not a household shopper	3	3	6	1	3
Ethnic group					
New Zealand European	26	28	19	27	28
New Zealand Māori	9	9	7	8	9
Pacific Island	100	100	100	100	100
Asian	4	2	2	5	8
Other European	3	3	3	3	4
Other	-	-	-	-	-
Region					
Northland Region	2	2	1	3	4
Auckland Region	66	59	73	63	69
Waikato Region	3	3	4	3	4
Bay of Plenty Region	2	3	1	3	1
Gisborne Region	-	-	1	-	-
Hawke's Bay Region	1	4	1	-	1
Taranaki Region	1	1	-	1	1
Manawatu-Wanganui Region	2	1	4	1	2
Wellington Region	14	20	11	16	8
Tasman Region	-	-	-	-	-
Nelson Region	-	-	-	-	1
Marlborough Region	-	-	-	-	1
West Coast Region	-	1	-	1	1
Canterbury Region	4	4	1	5	5
Otago Region	2	2	2	3	1
Southland Region	1	1	1	2	-
Annual household income					
Up to $30,000	20	23	22	20	15
$30,000 to $70,000	26	26	25	25	29
$70,001 to $100,000	14	14	9	16	18
$100,001 up to $120,000	11	10	12	8	12
More than $120,000	7	10	6	8	5
Unsure	8	3	14	8	8
Prefer not to say	14	16	12	14	13
Base (n=)	567	134	139	153	141

Source: S2, S4, D3, S3, S1, and D4/D5
Base: All those in the Pacific group

Appendix C: Questionnaire

Screening questions

Thanks for agreeing to do today's survey. Firstly we have a few questions to ensure we're surveying a wide range of people.

S1 In which of the following regions do you live?
Please select one only.

Northland Region	1
Auckland Region (includes the area from the Bombay Hills up to Wellsford)	2
Waikato Region	3
Bay of Plenty Region	4
Gisborne Region	5
Hawke's Bay Region	6
Taranaki Region	7
Manawatu-Wanganui Region	8
Wellington Region (includes Kapiti and the Wairarapa)	9
Tasman Region	10
Nelson Region	11
Marlborough Region	12
West Coast Region	13
Canterbury Region	14
Otago Region	15
Southland Region	16
Area outside these regions	17
Don't know	18

S2 Are you…?
Please select one only.

Male	1
Female	2

S3 Which of these groups do you fit into? You can be in more than one.
Please select all that apply.

New Zealand European	1
New Zealand Māori	2
Samoan	3
Cook Island Māori	4
Tongan	5
Niuean	6
Another Pacific Island group (please tell us)	7
Chinese	8
Indian	9
Another Asian group (please tell us)	10
Another European group (please tell us)	11
Another ethnic group (please tell us)	12
Don't know	13
Prefer not to say	14

S4 Which of the following age groups are you in?
Please select one only.

18 - 19	1
20 - 24	2
25 - 29	3
30 - 34	4
35 - 39	5
40 - 44	6
45 - 49	7
50 - 54	8
55 - 59	9
60 - 64	11
65 - 69	12
70 - 74	13
75 Plus	14
Prefer not to say	19

S5 Do you live with a spouse or partner?
Please select one only.

Yes	1
No	2

Post-screener introduction

Thank you, you're just the person we're looking for.

This is a short study about food choices. In a moment, we're going to show you some products and we'll ask you a few questions about them.

If you want to, you can click '**Enlarge**' to get a closer look at the product.

You can look at the back of a product if you wish to by clicking on '**Flip'**.

Please click on the 'next arrow' to go to the next question.

DP: ROTATE ORDER OF TRIAL A AND TRIAL B

Trial A

INSERT TIME STAMP ON ENTRY TO SCREEN

A1 Imagine you were shopping for a friend or family member who is generally quite healthy.

Which of these products do you think is healthier?
Please select one only.

DP:

- **ROTATE DISPLAY BETWEEN PAIR A (SNACK BARS HEALTHIER) AND PAIR B (BISCUITS HEALTHIER)**
- **INCLUDE 'ENLARGE' TO ALLOW RESPONDENT TO SEE LARGER IMAGE.**
- **INCLUDE 'FLIP' TO ALLOW RESPONDENT TO SEE OTHER SIDE OF IMAGE.**
- **DO NOT ALLOW BACK BUTTON.**

Biscuits	1	
Snack bars	2	
Don't know	3	**GO TO NEXT TRIAL OR C1**

INSERT TIME STAMP ON EXIT FROM SCREEN

A2 For what reasons did you choose **[INSERT ANSWER FROM A1]** as the healthier product?
Please type your answer below.

A3 And in your own opinion, how much **healthier** are the **[INSERT ANSWER FROM A1]**?
Please answer using the scale below.

1 There is hardly any difference when it comes to how healthy they are	1
2	2
3	3
4	4
5	5
6	6
7 The **[INSERT ANSWER FROM A1]** are much healthier	7
Don't know	8

Trial B

INSERT TIME STAMP ON ENTRY TO SCREEN

B1 Imagine you were shopping for a friend or family member who is generally quite healthy.

Which of these products do you think is healthier?
Please select one only.

DP:

- **ROTATE DISPLAY BETWEEN PAIR A (PIZZA HEALTHIER) AND PAIR B (PIE HEALTHIER)**
- **INCLUDE 'ENLARGE' TO ALLOW RESPONDENT TO SEE LARGER IMAGE.**
- **INCLUDE 'FLIP' TO ALLOW RESPONDENT TO SEE OTHER SIDE OF IMAGE.**
- **DO NOT ALLOW BACK BUTTON.**

Pizza	1	
Pie	2	
Don't know	3	**GO TO NEXT TRIAL OR C1**

INSERT TIME STAMP ON EXIT FROM SCREEN

B2 For what reasons did you choose the **[INSERT ANSWER FROM B1]** as the healthier product?
Please type your answer below.

B3 And in your own opinion, how much **healthier** is the **[INSERT ANSWER FROM B1]**?
Please answer using the scale below.

1 There's hardly any difference between them	1
2	2
3	3
4	4
5	5
6	6
7 The **[INSERT ANSWER FROM B1]** is much healthier	7
Don't know	8

Decision making

C1 Those are all the products we wanted to show you.

When you were thinking about which products were healthier, what helped you to decide?
Select any that apply.

RANDOMISE.

You already knew something about the products	1
Information that was on the package	2
You made a guess	3

ASK C2 IF CODE 2 AT C1, OTHERWISE GO TO D1

C2 What information on the product helped you to decide which was healthier?
Select any that apply.

RANDOMISE ALL EXCEPT CODE 12.

The picture shown on the package	1
The ingredients shown on the **front** of the package	2
The ingredients listed on the **back** of the package	3
The star rating	4
The amount of energy	5
The amount of protein	6
The amount of fat or saturated fat	7
The amount of carbohydrates and sugars	8
The amount of sodium	9
The weight of the product	10
The serving size	11
Something else (please tell us)	12

Demographics

Finally we have just a few more background questions.

D1 Which of the following describe your own current employment situation?
Please select all that apply.

DP: DO NOT ALLOW CODE 8 AND CODE 9. DO NOT ALLOW CODE 4 AND CODE 5. DO NOT ALLOW CODE 1 AND CODE 7. DO NOT ALLOW CODE 1 AND CODE 6.

Employed full-time	1
Employed part-time	2
Self-employed or running your own business	3
Studying full-time	4
Studying part-time	5
Stay at home parent	6
Retired	7
Not employed and available for work	8
Not employed and unavailable for work	9
Doing unpaid voluntary work	10
Other	11
SINGLE CODE: Unsure	12

D2 Which of the following best describes your household?
Please select one only.

Household with youngest child under 5	1
Household with youngest child aged 5-15	2
Household with youngest child at home over 15	3
DISPLAY IF CODE 2 AT S5 Single/one person household	4
Household – no children or none at home	5
Flatting – not a family home	6
Another type of household	7
Unsure	8

ASK IF CODE 1 AT S5

D3 Who in your household is responsible for your grocery shopping?
Please select one only.

I am responsible	1
I am **jointly responsible** with someone else	2
Someone else is responsible	3

ASK IF CODE 1 AT S5

D4 What is the approximate <u>combined</u> annual income of you and your partner from all sources, before tax?
Please select one only.

$20,000 or less	1	**CLOSE**
$20,001 to $30,000	2	**CLOSE**
$30,001 to $50,000	3	**CLOSE**
$50,001 to $70,000	4	**CLOSE**
$70,001 to $100,000	5	**CLOSE**
$100,001 up to $120,000	6	**CLOSE**
More than $120,000	7	**CLOSE**
Unsure	8	**CLOSE**
Prefer not to say	9	**CLOSE**

ASK IF CODE 2 AT S5

D5 What is your <u>personal</u> annual income from all sources, before tax?
Please select one only.

$5,000 or less	1
$5,001 to $10,000	2
$10,001 to $20,000	3
$20,001 to $30,000	4
$30,001 to $50,000	5
$50,001 to $70,000	6
$70,001 to $100,000	7
$100,001 up to $120,000	8
More than $120,000	9
Unsure	10
Prefer not to say	11

Appendix D: Product images

Trial 1 – Snack foods

Snack bars

Wheat biscuits


Ruskins
WHEAT BISCUIT
INGREDIENTS
Wheat flour, Chocolate (21%) [Sugar, Cocoa mass, Cocoa butter, Emulsifier (soy lecithin), Natural flavouring] Vegetable oil (palm), Partially inverted sugar syrup, Salt, Raising agent (sodium bicarbonate), Natural Flavouring (contains Barley)
4 891668 326689 >
Made in New Zealand from local and imported ingredients.
NUTRITION INFORMATION
PROFILE INSERTED HERE

Trial 2 – Frozen meals

Family size pizza

RED ROBBIN®

Crispy Crust

Pizza

OVEN BAKE 15 MINUTES

NUTRITION INFORMATION PROFILE INSERTED HERE

At Red Robbin, our recipe is simple: good food starts from real ingredients. That's why most of our ingredients can be found in your kitchen.

For best results bake from frozen.

OVEN

1. Preheat oven 230°C (210°C Fan Forced).
2. Remove film wrap and place frozen pizza on a bking tray on the middle rack of the oven.
3. Bake for 15 minutes or until topping is cooked to your satisfaction.
4. Serve while hot.

NOTE: Oven temperature may vary. You may need to adjust times accordingly. Pizza is not to be heated in a toaster oven.
CAUTION: PIZZA WILL BE VERY HOT WHEN TAKEN OUT OF THE OVEN.

For a Crispier Crust
Place pizza directly on the middle rack of the oven (without baking tray).

INGREDIENTS

Pizza base (Wheat flour, Water, Rapeseed oil, Yeast, Salt), Tomato sauce (Water, Tomato puree, Cornflour, Basil, Sugar, Garlic puree, Black pepper), Mozzarella cheese (16%)(contains milk), Smoke flavoured reformed ham (9%)(Pork (94%) Water, Salt, Dextrose, Antioxidant: Sodium ascorbate, Smoke flavouring, Flavouring, Glucose syrup, Preservative: Sodium Nitrate), Pineapple (9%).

4 891668 326689

Made in New Zealand from local and imported ingredients.

STORAGE

Keep frozen at or below minus 18°C.
If contents become thawed, use as soon as possible. Do not refreeze.

RED ROBBIN®

quality guarantee

If you're not happy with our product please let us know. Write to us @ Customer Services, Red Robbin Products Ltd, P.O. Box 27-522 Mt Wellington, Auckland 1309, or free-call us on 0800 785 134.

Marketed by:

Red Robbin Products Ltd, 29 South Road, Mt Wellington, Auckland 1560

® Registered Trademark

Family size pie

FAMILY SIZE

COLEMAN'S®

STEAK PIE

Home style steak and gravy in a delicious flaky pastry crust

NUTRITION INFORMATION
PROFILE INSERTED HERE

Made in New Zealand from local and imported ingredients.

BAKING INSTRUCTIONS

We recommend thawing before baking. To thaw, defrost in the refrigerator overnight or on a cool bench for four hours.
Preheat oven to 200°C. Remove packaging but leave the pie in its plate.
Place on a baking sheet in the centre of the oven. If thawed, bake for 45-55 minutes. If frozen, bake for 65-75 minutes.*
Remove pie from its plate before cutting.
*Baking times are a guide only as oven temperatures may vary.

STORAGE

Frozen: Keep frozen (-18°C) until required. Do not refreeze once thawed.
Thawed: Keep refrigerated (4°C) and use within 3 days of thawing.

INGREDIENTS

Steak pie filling (54%)(Beef (73%), Water, Onion, Cornflour, Wheat flour, Salt, Barley malt extract, Tomato puree, Stabilizer: Hydroxypropyl methyl cellulose, Black pepper), Shortcrust pastry (Wheat flour, Water, Palm oil, Rapeseed oil, Salt), Puff pastry (wheat flour, Water, Palm oil, Salt), Egg glaze (Egg, Milk).

Since 1917, generations of hungry Kiwis have enjoyed Coleman's pies. That's when pie master Ben Coleman first opened his home bakery. We are proud to be continuing that tradition today with Coleman's Family Pie range made right here in New Zealand.

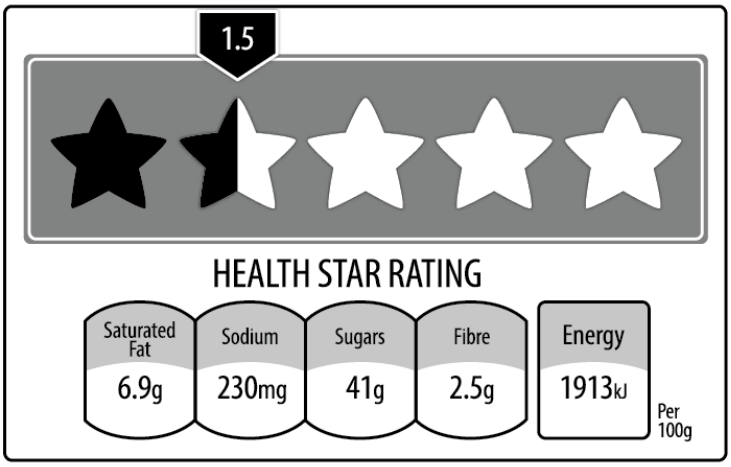
OUR GUARANTEE

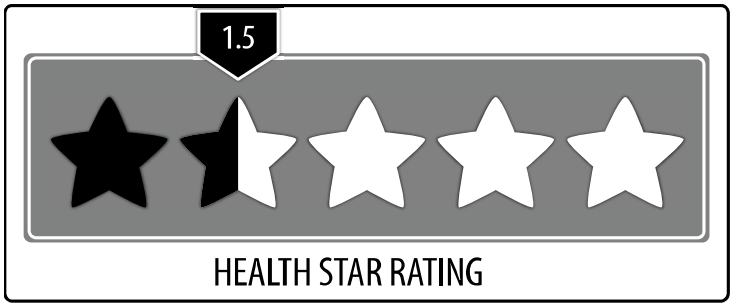
We welcome your feedback and comments. To contact us call 0800 103 522 in New Zealand or 1800 822 699 in Australia, or email css@colemans.co.nz. Please keep the product and packaging.

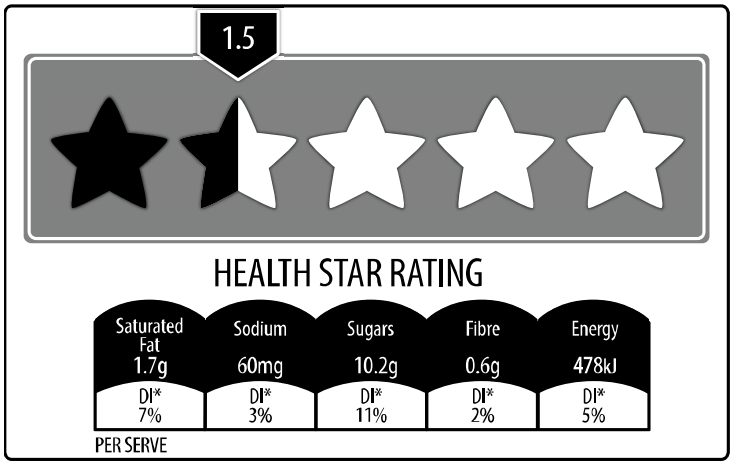
COLEMAN'S®

Appendix E: Front of Pack Label (FOPL) images

Trial 1 – Healthier labels

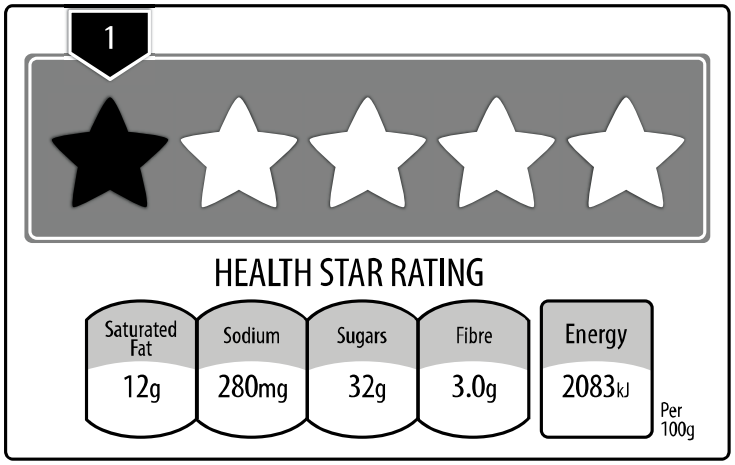


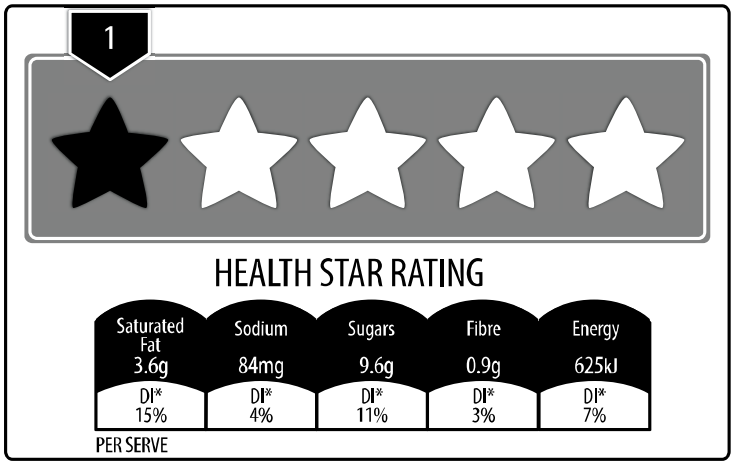




* PERCENTAGE DAILY INTAKES ARE BASED ON AN AVERAGE ADULT DIET OF 8700KJ. YOUR DAILY INTAKES MAY BE HIGHER OR LOWER DEPENDING ON YOUR ENERGY NEEDS.

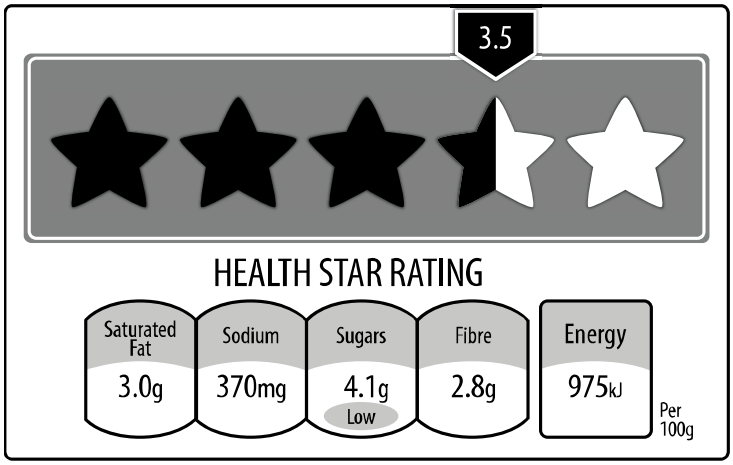
Trial 1 – Less healthy labels

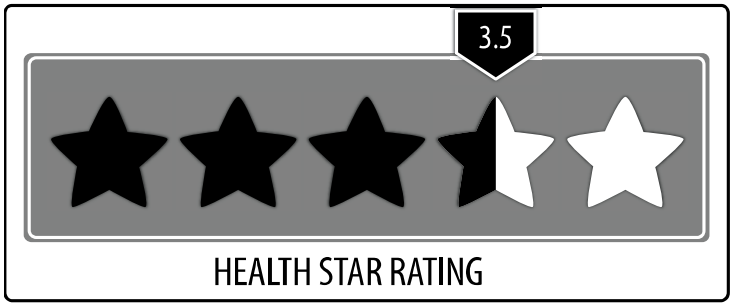


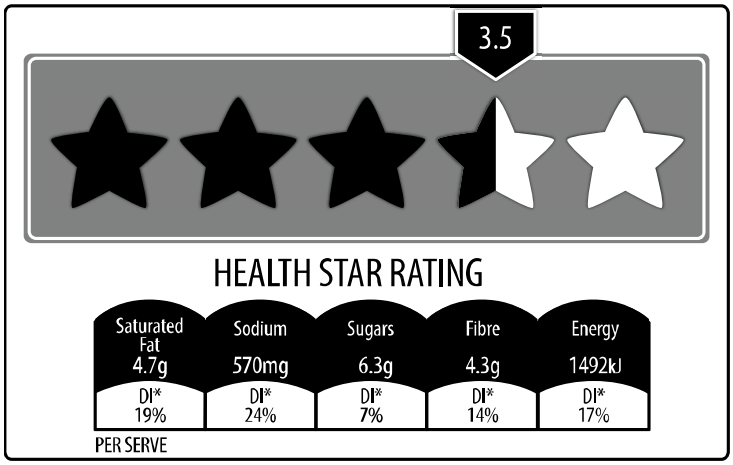


* PERCENTAGE DAILY INTAKES ARE BASED ON AN AVERAGE ADULT DIET OF 8700KJ. YOUR DAILY INTAKES MAY BE HIGHER OR LOWER DEPENDING ON YOUR ENERGY NEEDS.

Trial 2 – Healthier labels

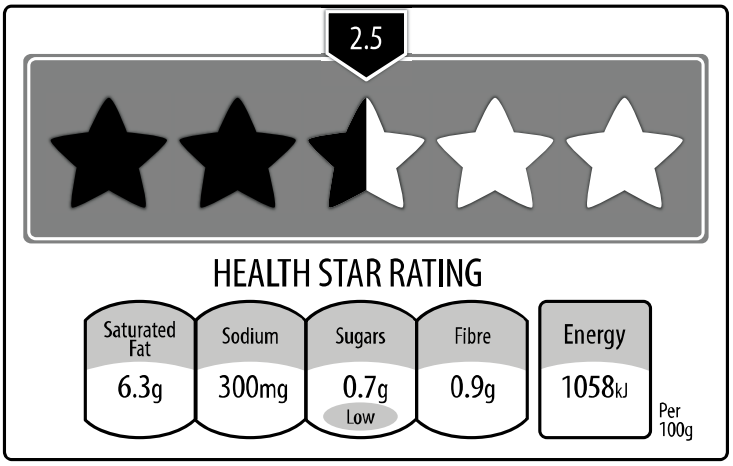


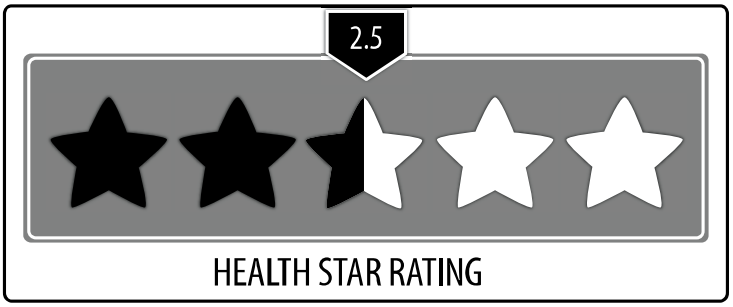


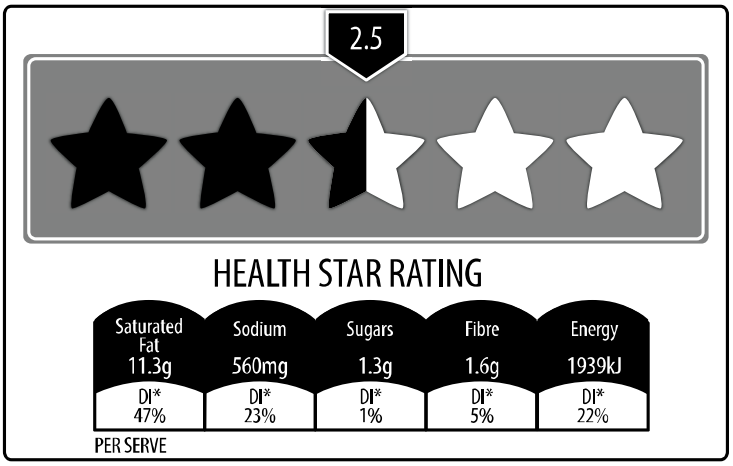


* PERCENTAGE DAILY INTAKES ARE BASED ON AN AVERAGE ADULT DIET OF 8700KJ. YOUR DAILY INTAKES MAY BE HIGHER OR LOWER DEPENDING ON YOUR ENERGY NEEDS.

Trial 2 – Less healthy labels







* PERCENTAGE DAILY INTAKES ARE BASED ON AN AVERAGE ADULT DIET OF 8700KJ. YOUR DAILY INTAKES MAY BE HIGHER OR LOWER DEPENDING ON YOUR ENERGY NEEDS.

Appendix F: Detailed reasons for selecting products

Trial 1 – Snack foods

General population group's reasons for making their choice

	Control group (no FOPL shown) %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Health Star Rating	**-**	**19**	**21**	**17**
Comments relating to nutrient content	**56**	**42**	**48**	**37**
Less fat/saturated fat	24	19	21	19
Less sugar	22	18	24	17
Less sodium/salt	7	8	8	8
Less energy/kilojoules	5	3	1	1
Less carbohydrates	5	3	4	2
Less/no calories	5	4	5	6
Has fibre	4	3	2	1
Nutrition information panel/difference per 100g	2	-	2	-
More protein	1	3	2	1
Good energy source/provides energy/higher energy	1	2	-	2
Less sweet/not as sweet/less sweetness added	1	-	1	-
More nutritional value/added nutrition	-	2	1	-
Comments relating to ingredients	**45**	**38**	**41**	**37**
It has cereal/rolled oats/oats/wheat/muesli/grain/wholegrain	15	15	15	18
No chocolate/not so much chocolate	14	13	12	11
Fruit content	10	9	8	5
Dark chocolate coating/dark chocolate is better than milk chocolate	9	5	5	6
Nut content	5	3	4	5
The ingredients/amount of ingredients	4	3	8	3
Yoghurt is healthier than chocolate	1	-	1	-
Contains vitamins/minerals	1	-	1	-
Yoghurt content	1	-	2	1
Ingredient information panel	-	-	-	-
Chocolate is ok/has some good stuff in it/fine in moderation	-	-	-	-
Other factors that contributed to decision	**18**	**18**	**17**	**19**
Smaller serving size	3	2	2	1
It looks less processed/more natural	3	4	3	1
Looks healthier (non-specific)	3	3	4	5
What I thought/perceived as being healthier	3	2	1	4
PRODUCT is healthier than PRODUCT	1	2	2	2
Preferred choice	1	-	1	1
More substance/filling as a meal	1	1	-	-
Information panel (non-specific)	1	-	2	3
Based on picture/images	1	1	-	1
Tastier/looks tastier	1	-	-	-
The packaging/box (non-specific)	1	2	1	1
The colour(s)/green colour/bright colours	-	1	1	1
Miscellaneous				
Also mentions perceived unhealthy features of their choice	4	3	4	5
Points unrelated to decision about which product is healthier	4	3	5	7
Other	4	3	4	4
None	1	1	2	-
Don't Know	1	-	-	1
Base (n=)	242	246	245	233

Source: A2

Base: All those in the General population group who were able to make a selection.

Note: Percentages that are shaded and in bold are 'nett percentages'. Nett percentages show the proportion of respondents providing at least one of the more detailed responses in that category.

Māori group's reasons for making their choice

	Control %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Health Star Rating	**-**	**18**	**21**	**16**
Comments relating to nutrient content	**55**	**46**	**47**	**53**
Less fat/saturated fat	24	24	15	29
Less sugar	24	20	27	27
Less sodium/salt	9	9	6	9
Less energy/kilojoules	7	6	2	4
Less carbohydrates	3	3	2	5
Less/no calories	8	3	4	3
Has fibre	3	4	2	3
Nutrition information panel/difference per 100g	1	1	-	1
More protein	-	1	1	-
Good energy source/provides energy/higher energy	-	1	1	3
Less sweet/not as sweet/less sweetness added	1	-	-	-
More nutritional value/added nutrition	1	1	1	1
Comments relating to ingredients	**49**	**33**	**39**	**35**
It has cereal/rolled oats/oats/wheat/muesli/grain/wholegrain	23	12	16	15
No chocolate/not so much chocolate	18	11	12	10
Fruit content	12	8	9	5
Dark chocolate coating/dark chocolate is better than milk chocolate	12	6	7	7
Nut content	6	1	5	3
The ingredients/amount of ingredients	2	2	3	3
Yoghurt is healthier than chocolate	1	1	1	1
Contains vitamins/minerals	-	-	-	-
Yoghurt content	2	1	-	-
Ingredient information panel	2	1	-	1
Chocolate is ok/has some good stuff in it/fine in moderation	1	-	1	1
Other factors that contributed to decision	**16**	**20**	**16**	**15**
Smaller serving size	1	3	2	3
It looks less processed/more natural	2	2	3	2
Looks healthier (non-specific)	3	5	6	5
What I thought/perceived as being healthier	2	3	2	1
PRODUCT is healthier than PRODUCT	3	1	2	-
Preferred choice	1	2	-	1
More substance/filling as a meal	2	1	-	1
Information panel (non-specific)	1	1	1	-
Based on picture/images	1	1	1	1
Tastier/looks tastier	1	-	1	1
The packaging/box (non-specific)	-	2	1	1
The colour(s)/green colour/bright colours	-	1	-	-
Miscellaneous				
Also mentions perceived unhealthy features of their choice	3	2	2	4
Points unrelated to decision about which product is healthier	3	3	4	2
Other	4	3	2	6
None	-	1	-	1
Don't Know	1	-	-	-
Base (n=)	177	181	164	147

Source: A2

Base: All those in the Māori group who were able to make a selection.

Note: Percentages that are shaded and in bold are 'nett percentages'. Nett percentages show the proportion of respondents providing at least one of the more detailed responses in that category.

Pacific group's reasons for making their choice

	Control %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Health Star Rating	**-**	**12**	**17**	**15**
Comments relating to nutrient content	**45**	**45**	**42**	**43**
Less fat/saturated fat	14	22	16	23
Less sugar	22	20	16	20
Less sodium/salt	6	7	2	3
Less energy/kilojoules	-	2	1	-
Less carbohydrates	2	3	1	2
Less/no calories	2	2	6	2
Has fibre	4	4	2	2
Nutrition information panel/difference per 100g	1	-	1	2
More protein	2	1	2	1
Good energy source/provides energy/higher energy	2	3	2	2
Less sweet/not as sweet/less sweetness added	1	1	4	1
More nutritional value/added nutrition	3	1	-	2
Comments relating to ingredients	**57**	**36**	**46**	**40**
It has cereal/rolled oats/oats/wheat/muesli/grain/wholegrain	34	13	20	20
No chocolate/not so much chocolate	8	5	12	7
Fruit content	15	9	12	9
Dark chocolate coating/dark chocolate is better than milk chocolate	8	4	3	8
Nut content	7	8	7	4
The ingredients/amount of ingredients	3	4	5	5
Yoghurt is healthier than chocolate	1	1	-	-
Contains vitamins/minerals	1	-	1	-
Yoghurt content	-	-	1	2
Ingredient information panel	-	-	-	2
Chocolate is ok/has some good stuff in it/fine in moderation	1	-	-	2
Other factors that contributed to decision	**18**	**24**	**14**	**20**
Smaller serving size	1	-	-	1
It looks less processed/more natural	1	2	3	4
Looks healthier (non-specific)	5	7	6	8
What I thought/perceived as being healthier	1	4	1	2
PRODUCT is healthier than PRODUCT	2	1	2	1
Preferred choice	1	1	-	1
More substance/filling as a meal	1	1	-	1
Information panel (non-specific)	2	3	-	1
Based on picture/images	1	2	1	1
Tastier/looks tastier	2	5	1	2
The packaging/box (non-specific)	3	-	2	1
The colour(s)/green colour/bright colours	1	1	1	2
Miscellaneous				
Also mentions perceived unhealthy features of their choice	3	2	1	2
Points unrelated to decision about which product is healthier	1	2	1	4
Other	2	5	1	4
None	1	-	-	-
Don't Know	1	2	3	-
Base (n=)	125	130	145	133

Source: A2

Base: All those in the Pacific group who were able to make a selection.

Note: Percentages that are shaded and in bold are 'nett percentages'. Nett percentages show the proportion of respondents providing at least one of the more detailed responses in that category.

Trial 2 – Frozen meals

General population group's reasons for making their choice

	Control group (no FOPL shown) %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Health Star Rating	**-**	**27**	**26**	**26**
Comments relating to nutrient content	**61**	**48**	**56**	**46**
Less fat/saturated fat	44	33	44	38
More protein	9	3	7	5
Less/no calories	7	4	5	5
Less sodium/salt	5	8	1	3
Less carbohydrates	5	7	5	1
Less energy/kilojoules	4	5	1	2
Less sugar	3	5	3	3
Has fibre	2	-	2	2
Nutrition information panel/difference per 100g	1	2	2	-
More nutritional value/added nutrition	-	1	1	-
Good energy source/provides energy/higher energy	-	-	-	-
Comments relating to ingredients	**35**	**21**	**28**	**25**
Contains meat	14	6	7	10
Less/no cheese	13	6	7	8
It has vegetables	5	3	7	3
No/less pastry	4	4	6	3
The ingredients/amount of ingredients	3	4	3	4
Contains vitamins/minerals	2	1	1	-
Less meat	1	-	1	-
Fruit content	1	-	1	-
Ingredient information panel	-	-	-	-
Other factors that contributed to decision	**26**	**18**	**18**	**19**
It looks less processed/more natural	8	2	4	2
PRODUCT is healthier than PRODUCT	5	5	6	6
More substance/filling as a meal	3	1	1	1
Smaller serving size	2	-	1	-
Preferred choice	2	1	1	3
Can be served with accompaniments (eg, vegies)	2	1	2	-
Based on picture/images	2	3	1	1
Baked	1	-	-	-
Thin/crispy	1	1	-	1
Information panel (non-specific)	-	1	-	1
Tastier/looks tastier	-	1	-	-
Looks healthier (non-specific)	-	2	2	2
What I thought/perceived as being healthier	-	-	-	2
The packaging/box (non-specific)	-	-	-	-
Miscellaneous				
Also mentions perceived unhealthy features of their choice	8	3	4	4
Points unrelated to decision about which product is healthier	6	3	4	4
Other	5	2	3	2
None	1	-	2	1
Don't Know	1	2	-	1
Base (n=)	219	237	237	226

Source: B2

Base: All those in the General population group who were able to make a selection.

Note: Percentages that are shaded and in bold are 'nett percentages'. Nett percentages show the proportion of respondents providing at least one of the more detailed responses in that category.

Māori population group's reasons for making their choice

	Control group (no FOPL shown) %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Health Star Rating	**-**	**22**	**26**	**20**
Comments relating to nutrient content	**63**	**50**	**45**	**54**
Less fat/saturated fat	49	36	34	45
More protein	7	2	4	6
Less/no calories	11	6	7	6
Less sodium/salt	5	3	5	3
Less carbohydrates	5	4	4	3
Less energy/kilojoules	4	7	2	4
Less sugar	4	6	4	4
Has fibre	2	2	1	5
Nutrition information panel/difference per 100g	1	5	1	1
More nutritional value/added nutrition	-	1	-	-
Good energy source/provides energy/higher energy	-	-	-	1
Comments relating to ingredients	**35**	**25**	**27**	**24**
Contains meat	14	7	7	8
Less/no cheese	8	7	9	3
It has vegetables	6	3	2	4
No/less pastry	6	4	7	6
The ingredients/amount of ingredients	5	4	5	4
Contains vitamins/minerals	1	-	1	-
Less meat	1	1	1	2
Fruit content	2	2	1	1
Ingredient information panel	1	1	-	-
Other factors that contributed to decision	**27**	**25**	**20**	**21**
It looks less processed/more natural	8	2	4	4
PRODUCT is healthier than PRODUCT	2	7	4	5
More substance/filling as a meal	4	2	3	2
Smaller serving size	1	1	2	1
Preferred choice	4	1	1	1
Can be served with accompaniments (eg, vegies)	-	-	3	1
Based on picture/images	1	5	1	-
Baked	1	-	1	-
Thin/crispy	1	1	2	3
Information panel (non-specific)	2	3	-	2
Tastier/looks tastier	-	-	-	1
Looks healthier (non-specific)	2	3	1	1
What I thought/perceived as being healthier	1	1	1	-
The packaging/box (non-specific)	1	-	1	1
Miscellaneous				
Also mentions perceived unhealthy features of their choice	7	6	4	7
Points unrelated to decision about which product is healthier	4	3	6	2
Other	3	3	2	3
None	1	1	2	1
Don't Know	1	1	1	-
Base (n=)	172	173	163	143

Source: B2

Base: All those in the Māori group who were able to make a selection.

Note: Percentages that are shaded and in bold are 'nett percentages'. Nett percentages show the proportion of respondents providing at least one of the more detailed responses in that category.

Pacific group's reasons for making their choice

	Control group (no FOPL shown) %	Australian Health Star Rating System %	Rating Star only %	Rating Star and Daily Intake Guide %
Health Star Rating	**-**	**24**	**21**	**26**
Comments relating to nutrient content	**48**	**36**	**46**	**42**
Less fat/saturated fat	33	28	36	31
More protein	3	2	4	7
Less/no calories	5	2	7	5
Less sodium/salt	4	5	2	5
Less carbohydrates	5	3	5	2
Less energy/kilojoules	1	5	1	2
Less sugar	4	5	3	3
Has fibre	-	2	1	1
Nutrition information panel/difference per 100g	3	2	1	2
More nutritional value/added nutrition	-	-	-	-
Good energy source/provides energy/higher energy	-	1	-	-
Comments relating to ingredients	**36**	**29**	**33**	**32**
Contains meat	11	10	8	7
Less/no cheese	12	5	9	7
It has vegetables	9	9	8	13
No/less pastry	4	4	4	4
The ingredients/amount of ingredients	3	5	5	4
Contains vitamins/minerals	1	-	-	-
Less meat	2	-	2	2
Fruit content	1	1	2	1
Ingredient information panel	-	-	-	-
Other factors that contributed to decision	**28**	**21**	**22**	**16**
It looks less processed/more natural	6	4	1	4
PRODUCT is healthier than PRODUCT	5	5	12	1
More substance/filling as a meal	1	2	1	1
Smaller serving size	1	2	1	-
Preferred choice	6	2	2	3
Can be served with accompaniments (eg, vegies)	1	2	2	-
Based on picture/images	2	-	1	3
Baked	2	-	-	2
Thin/crispy	1	1	4	2
Information panel (non-specific)	1	1	-	-
Tastier/looks tastier	2	1	1	-
Looks healthier (non-specific)	2	3	1	2
What I thought/perceived as being healthier	1	-	1	2
The packaging/box (non-specific)	-	-	-	-
Miscellaneous				
Also mentions perceived unhealthy features of their choice	2	2	2	1
Points unrelated to decision about which product is healthier	5	2	2	3
Other	3	3	4	3
None	1	1	1	2
Don't Know	1	3	1	2
Base (n=)	120	130	135	133

Source: B2

Base: All those in the Pacific group who were able to make a selection.

Note: Percentages that are shaded and in bold are 'nett percentages'. Nett percentages show the proportion of respondents providing at least one of the more detailed responses in that category.