

Implicit and Explicit Risk Perception, Affect, and Trust: An Investigation of Food “Traffic Lights”.

Tony McCarthy, Calvin Burns, & Matthew Revie.

Risk, Perception, and Response Conference.

Harvard Center for Risk Analysis.

20th-21st March 2014.

*The slides include some animations / transitions
("Normal" presentation mode only)*

*View in "Notes Page" presentation view to see
the text summaries that accompany each slide*





Time constraints



Complex nutrition labels

Nutrition Facts	
Serving Size 1 cup (228g) Servings Per Container 2	
Amount Per Serving	
Calories 250	Calories from Fat 110
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Potassium 700mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Start here

Check calories

Quick guide to % DV

5% or less is low
20% or more is high

Limit these

Get enough of these

Footnote

Nutrition Facts	
Serving Size 1 cup (228g) Servings per Container 2	
Amount Per Serving	
Calories 280	Calories from Fat 120
% Daily Value*	
Total Fat 13g	20%
Saturated Fat 5g	25%
Trans Fat 2g	
Cholesterol 2mg	10%
Sodium 660mg	28%
Total Carbohydrate 31g	10%
Dietary Fiber 3g	0%
Sugars 5g	
Protein 5g	
Vitamin A 4%	Vitamin C 2%
Calcium 15%	Iron 4%

* Percent Daily Values are based on a 2,000-calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

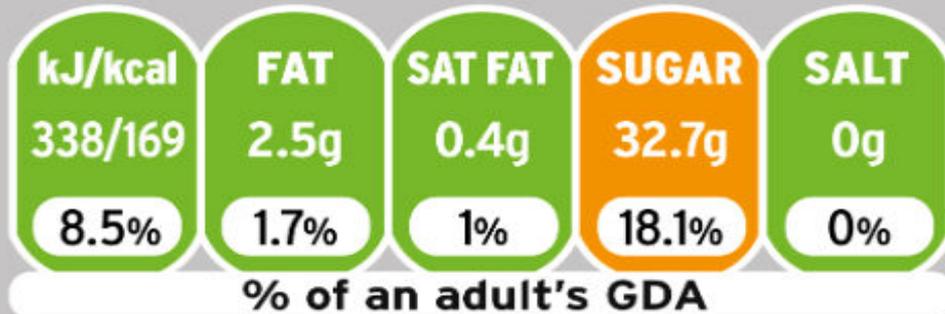
NUTRITION INFORMATION			
Servings Per Package: 10		Serving Size: 30ml	
Avg Quantity	Per Serving	Per 100ml	%DV
ENERGY	246kJ	819kJ	
PROTEIN	0.8g	2.6g	
FAT, Total	5.7g	19.0g	9%
-Saturated Fat	4.0g	13.4g	18%
-Trans Fat	0.03g	0.1g	
-Polyunsaturated	0.03g	0.1g	
-Monounsaturated	0.03g	0.1g	
-Cholesterol	20mg	66.6g	7%
CARBOHYDRATE	1.2g	4.1g	0%
-Sugars	1.0g	3.3g	
-Dietary Fibre	0g	0g	
SODIUM	10mg	32mg	1%
CALCIUM	35.1mg	117mg	
POTASSIUM	45.6mg	151mg	

- Serving Size
- Serving Unit
- Calories
- Protein
- Fats
- Carbs
- Nutrients

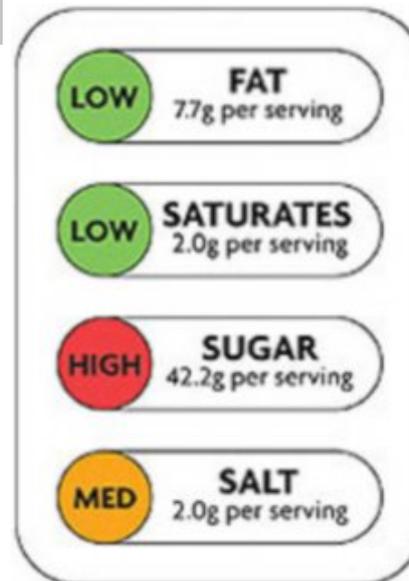
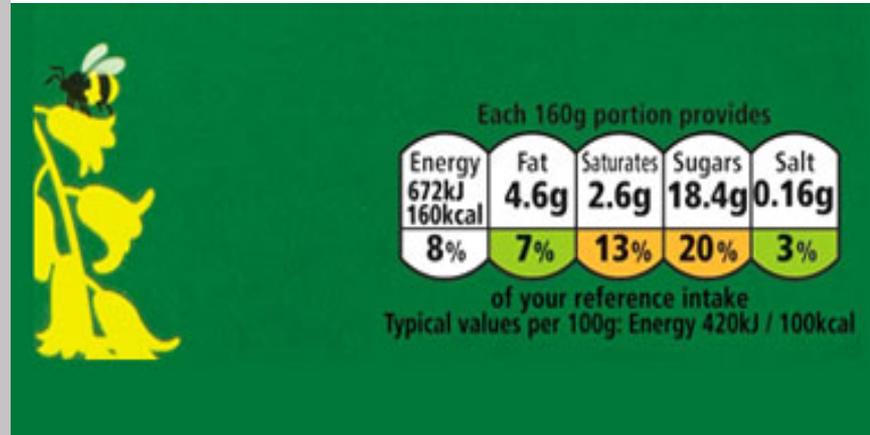
8 Daily Values

Food “traffic lights”

30g serving with 150ml semi-skimmed milk



Typical values per 100g: **Energy 1428 kJ, 338 kcal**



Food “traffic lights”

Energy 1356 kJ 324 kcal	Fat 27g	Saturates 6.3g	Sugars 0g	Salt 1.2g
16%	39%	32%	<1%	20%



Study conditions



Group 1

Participants viewed images
WITHOUT “traffic lights”



Group 2

Participants viewed images
WITH “traffic lights”

Explicit measures (survey)

HIGH
RISK



LOW
RISK



Mackerel **WITH** “traffic lights”
rated significantly **HIGHER RISK**

Carbonara **WITH** “traffic lights”
rated significantly **HIGHER RISK**

Implicit measures (priming task)

HIGH
RISK



LOW
RISK



Mackerel **WITH** "traffic lights" scored significantly **HIGHER RISK** in priming task

Risk / Affect correlations

	Explicit measure (survey)	Implicit measure (priming task)
WITH “traffic lights”	Moderate to Strong (rho = $-.596$)	Low to Moderate (rho = $-.257$)
WITHOUT “traffic lights”	Low to Moderate (rho = $-.275$)	No Correlation (rho = $.078$)

All significant correlations show that
HIGH RISK is associated with **NEGATIVE AFFECT**,
and **LOW RISK** is associated with **POSITIVE AFFECT**.

Conference Aim A



Risk Information vs. Benefit Information



Conference Aim B

Affect Heuristic

Trust and Risk Perception

Sample and Population



Conference Aim C

Miscommunication is Evident

Government Policy
for Food “Traffic Lights”



University of
Strathclyde
Glasgow