Linking behaviour to food safety risk

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Problem from a natural science perspective

Farm → Food Processing → Retail → Consumer → consumption

Natural sciences
Problem from a social science perspective

Social sciences

Information

Information Processing

Perceived risk

Consumer

Consumption
Problem alignment

- Farm
- Food Processing
- Retail
- Information Processing
- Perceived risk
- Consumer
- Consumption

Natural sciences
Social sciences
• How do people process food risk information?
• How does this change their behaviours? (If at all?)
• How can we improve food safety practices?
“Optimistic bias”

- Where people think they are, on average, at less risk than a comparative individual in their society
- As a consequence, they tend to engage in risky behaviours
- Does this apply to food safety?
  - YES!

Risk ratings

Control ratings

- Alcohol
- Fat
- Food poisoning (home)
- Food poisoning (outside)
- Microwave ovens
- Irradiation
- Pesticides
- GM animal
- GM micro-organisms
- GM plants

Legend:
- Green: society
- Red: other people
- Yellow: personal

Frewer, Shepherd & Sparks (1994)
Knowledge ratings

Frewer, Shepherd & Sparks (1994)
Risk communication

• If people think risk communication is directed towards
  – People who are at greater risk
  – People who have less control about the risk
  – People who are less knowledgeable…..

…..Why should they change their behaviours in line with the risk communication messages…?
Assessing perceptions of food risks

Risk Communication Issues

• **What** information should be communicated *(What are people doing wrong)*
• Are some people *more vulnerable* than others? (> Targeted communication)
• How to overcome *optimistic bias*? *(It won’t happen to me!)*
• How to get people to process information in an *in depth way* which influences self-protective behaviours?
Explaining individual differences

What *psychological factors* determine consumer attitudes, decision-making and impact on self-protective behaviors?
Clusters of Consumers and self protective behaviour –

domestic food safety

Results of hierarchical cluster analysis on Rasch data

I: Traditional family
- Less educated older women, few est jobs, habitual cooks, optimistic about own cooking;
- 0.78; 7%

II: Average Family (traditional)
- Not Single, Older, high external locus of control, habitual cooks, Optimistic; 0.56; 21%

III: Average Family
- Female medium age cooks;
- 0.37; 35%

IV: Average Family (modern)
- Average families; 0.16; 28%

V: Single Male
- Highly educated single male, City residence, Long working hours, No habitual cook, low external locus of control;
- -0.13; 9%

Targeting individual information needs

Focus on achievable objectives regarding interventions for different population groups

• Identify which consumer is "at risk", and give him/her information that (s)he needs

• Rasch scale provides information to determine which behaviour is within reach for which consumer

• Test against microbiological risks associated with specific food preparation behaviours
Determinants of consumer behaviour

Social science

Gender (F=1,M=2)
AGE
LIVING (single=1, not single=2)
Education
Illness History (high=recent)
Physical Condition (high=good)

Natural science

Food safety score

Habit
Trait Worry
Optimism own cooking
Internal Locus
Perceived Knowledge

\[ X^2(df=124)=654 \text{ RMSEA}=0.064 \]

A hierarchical view - subjective representation of food safety

χ²=1116; df=248; RMSEA=0.065
CFI=0.93; GFI=0.90; CAIC=1517
(independence CAIC=11154; saturated CAIC=2314)

Fischer and Frewer, submitted
Determinants of food safety and good nutrition? Developing communication interventions….

• **Habitual behaviour**
  - People tend to do what they have always done, despite having other knowledge about how to protect themselves

• **Perceived Risk versus perceived benefit**
  - Peoples decisions involve “trading-off” their perceptions of risk associated with engaging in a behaviour versus their perceptions of benefit.

• **Role of affect or emotion**
  - Emotional cues may trigger knowledge and/or attitude activation which translates into behaviour

• **Implicit memory**
  - People may not explicitly recollect their knowledge?
  - Interactions between these….
Individual Differences in Seeking Food Safety Information

- **Heavy users**: Confident in sources
  - Female, with young children
  - Confident about scientific and government sources
  - High health locus of control
  - Highly educated

- **Average users**: 23%
  - Use social networks and retailers for information
  - High trait worry
  - Younger, female, low education

- **Social source users**: 20%
  - Confident about scientific and government sources
  - High health locus of control
  - Highly educated

- **Formal source users**: 20%
  - Active information seekers
  - Confident in sources
  - Female, with young children

- **Heavy non-users**: 13%
  - Low trait worry and health locus of control
  - Male, less well educated

- **Average users**: 24%
  - Low health locus of control
  - Low confidence in information
  - Male, highly educated, no child care responsibility

The role of attitude activation
Activating knowledge...

- Use **images** to evoke relevant emotion?
  - Disgust activates food safety knowledge
  - Anger does not activate food safety knowledge

Embed Food safety messages in recipes?

• Embed *Food Safety* messages in recipes?

• Reduce *optimistic bias by equating information with target group*?
So where are we…?

• We know a lot about barriers to behavioural change related to food safety…

• How do we overcome these?
Thank you!

Questions or comments?

What NEW research is needed to make consumers safe?